



PROCEEDINGS

OF THE

DORSET NATURAL HISTORY

AND

ANTIQUARIAN FIELD CLUB.

EDITED BY

MORTON G. STUART,

Vice-President.

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En Memoriam.

THE LATE MR. HENRY DURDEN, OF BLANDFORD.

As a member of the Field Club I may be pardoned for recalling to the notice of the members the death of this gentleman, who was one of our body, though perhaps not very generally known, as the latter period of his life was passed in comparative privacy, partly from infirmity but chiefly perhaps in accordance with his natural disposition and his acquired habits. But Mr. Durden was in reality different from what he appeared to be to a common acquaintance. His love of antiquity and research into the early history of this country led him to bestow from early years some portion of his leisure hours on the study of these subjects, and on the collection of objects of primitive art, to illustrate their various departments. I have known Mr. Durden personally for sixty years and more, and remember very well the time when he began, as a youth, to collect the treasures which have made his name famous, and which by degrees grew into the splendid and valuable museum which he has died possessed of. Some years before that event occurred, I know that the late Charles Roach Smith, F.S.A., a name well known to archæologists, entreated his friend Durden to publish an illustrated catalogue of his collection ; this suggestion was not acceded to, but not disregarded, and was deferred until the last year of his life, when the work was carried out by his friend Mr. George Payne, F.S.A., with the assistance of his own M.S. notes of his discoveries, and of the relics in his collection, made

with scrupulous accuracy and carefully kept in his possession. It is indeed encouraging to see what one man, with little time at command, but with the love of the subject at heart, and with energy and perseverance, is able to achieve for the benefit of science. We are thankful for this index of his treasures, as a most valuable record of discoveries which might otherwise have been lost for the use of the topographical historian, as well as the archæologist of a wider field. This unique collection is rich in Celtic and Roman antiquities, many of them of surpassing excellence and rarity, and the majority of them, be it especially noted, the produce of our own beloved county, which alone greatly enhances their value in the estimation of all Durotrigian antiquaries. Alas! the lamented death of Mr. Durden will place this collection in other hands; nor can I do otherwise than endorse the feeling expressed by the Chairman at a recent Museum meeting at Dorchester, that it would be a very great pity if the county allowed that valuable collection to be taken away. He hoped that something could be done to keep such a highly interesting and costly collection in the county. It is now known that it will be offered in its entirety for purchase to the authorities of our National Museum; and that in case of failure, the offer will be renewed to the trustees of our County Museum; and that in the event of failure here, this grand collection will be dispersed by public auction. This would be indeed a deplorable issue, which we trust may be yet averted.*

In concluding this imperfect memento of an old and respected friend, I may be excused perhaps if I briefly allude to the different aspect which archæology now presents in this county to that which it bore within my remembrance at an earlier period. After the completion of the second edition of Hutchins' *Dorset* in 1814, and the catastrophe attending its publication, archæology for some years remained in this county at a low ebb. In 1824 a reflux to some extent took place, subsequent to the excavation of the *Deverel Barrow*, and the remarkable discoveries therein made by

* Since this has been in type the collection has been purchased by the Trustees of the British Museum.

W. S.

Mr. William Augustus Miles, a friend of Sir Richard Colt Hoare, of Stourhead. I knew this gentleman intimately well and confess that it was impossible to be long in his company without being fascinated by his discourse, and in some measure infected by his enthusiasm, if not fully convinced by his specious theories. About this time a group of mutual friends, stimulated in a similar manner, consisting of Messrs. Charles Hall, of Ansty, Charles Warne, of Milborne St. Andrew, John Sydenham, of Poole, William Shipp, Edward Oke Spooner, and Henry Durden, of Blandford, and myself, met together occasionally to converse on antiquarian subjects, to compare notes, read essays, and exhibit our last acquisitions of curious relics which any of us had met with. These friendly meetings were often productive of animated discussion, and no doubt induced a habit of thought and reflection. I am the last survivor of that small fraternity, and now look back through the long vista of past years to those pleasant meetings with the mixed feelings of pleasure and great regret for the loss of so many dear friends. But I have still the extreme satisfaction of living to see the day when archæology flourishes in our borders under high and intelligent patronage, having out-lived the age when it received scant notice in society ; and when the study of antiquities itself is pursued on sounder principles, so as to be entitled to take rank as a science ; and thus has archæology become the true handmaid of history.

It is no part of my wish to enter upon a history of its progress in this county from that period until the present, but this I will say the example and teaching of such men as the late Charles Roach Smith, F.S.A., and of Albert Way, F.S.A., did much to instruct us in the true principles of archæological science ; and the two great societies founded in 1844, by their annual congresses and periodical literature did much to extend the knowledge of antiquarian lore. Nor is it without a feeling of pride that I am able to point to such volumes, as *Warne's Ancient Dorset*, and his *Celtic Tumuli of Dorset*, and to Shipp and Hodson's third edition of Hutchins, as the outcome of those private meetings at Blandford

to which I have alluded ; these works are the memorials of the friends who have passed away. Nor will I forget that it was our colleague, John Sydenham, who first broached the true theory of the Kimmeridge coal money, at the Archæological Congress at Canterbury in September, 1844, which up to that time had remained enveloped in the garb of mystery with which Miles had invested it, but which then and there was torn away for aye. Nor can I forget the intense interest which his clever essay on the Cerne Giant, read at one of our private meetings, excited in the audience.*

Here I pause and conclude these remarks by adverting to the principal object I had in view—viz., to record this poor but sincere tribute to the memory of an old friend and worthy member of the Dorset Natural History and Antiquarian Field Club.

T. W. W. S.

April, 1892.

* Baal. Durotrigensis—a dissertation on the ancient colossal figure of Cerne, Dorsetshire, &c.—By John Sydenham, author of the history of the town and county of Poole, &c. London : Pickering, 1842.



The Proceedings
OF THE
Dorset Natural History and Antiquarian
Field Club

DURING THE SEASON 1891—2.

(With plate of inscribed stones in St. Mary's Church, Wareham.)

By M. G. STUART, M.A., F.G.S.

The work of the Club during the season of 1891-2 has comprised the annual business meeting at Dorchester on Wednesday, May 27th; a meeting at Wareham on Thursday, June 18th; a two days' meeting at Lyme Regis on Tuesday and Wednesday, July 21st and 22nd; a meeting at Lulworth on Wednesday, August 19th; one at the County Museum, Dorchester, on Wednesday, December 9th; and another at the same place on Wednesday, February 10th.

Volume XII. of the "Proceedings" was issued in December, 1891.

THE ANNUAL BUSINESS MEETING AT DORCHESTER on May 27th, 1891, was attended by some 25—30 members. The news that the President was seriously ill at Grenoble was received with general regret. The Treasurer, the Rev. O. P. Cambridge, was also indisposed and unable to be present. The chair was occupied by the Rev. Sir Talbot Baker.

THE TREASURER'S REPORT FOR 1890-91.—This, in the absence of the Rev. O. P. Cambridge, was read by the Secretary. Mr. Cambridge said he considered the financial position of the Club continued to be satisfactory, although the Volume of "Proceedings," XI., that had been published during the year was the largest and most costly of the series. Still he hoped that their income would be sufficient to meet the expenditure of the year, and to enable them to publish another Volume of average size. The report subsequently referred to the large amount of subscriptions in arrear, not less than £28 being due from 13 members. The sale of the publications of the Club during the past twelve months was alluded to with satisfaction; £21 2s. having been derived from this source. This valuable asset, the Treasurer said, he feared would not

keep up to anything like that figure just mentioned, since the earlier Volumes of the "Proceedings" are becoming very scarce, and when these failed it would prevent the supply to members of complete sets of the "Proceedings" as hitherto. The report was adopted on the motion of Mr. Milledge.

ELECTION OF NEW MEMBERS.—Five new members were elected.

ELECTION OF OFFICERS.—The President, on the proposal of Mr. E. Bankes, seconded by Mr. Richardson, was re-elected for the ensuing year. On the proposal of Canon Ravenhill, seconded by Mr. Milledge, the Treasurer and Secretary were also re-elected.

REPORT OF THE CURATOR OF THE MUSEUM.—Mr. H. J. Moule read his report on the additions made to the County Museum collections during the past year. He said that the Library was a department to which it was just impossible for him to attend owing to his duties in the Museum proper. However, Mr. Albert Bankes had given great assistance in this department, and had examined and catalogued the whole collection of books. The Library had been enriched by several gifts of books during the year. The collections in the Museum had been enlarged by some interesting additions of birds, and of eggs the gift of Mr. Wallis. The additions in the collections representative of Dorsetshire antiquities had not been numerous; they were, however, indebted to the President for a very interesting group of antiquities from Portland, and to Mr. Cunnington for a fine Celtic urn from Iwerne. In conclusion Mr. Moule expressed a regret that so few things had found their way during the year to the County Museum.

THE PROGRAMME FOR THE YEAR.—After a considerable discussion it was decided that meetings should be held at Wareham in June, Lyme Regis in July (two days), Lulworth in August, and Sturminster Newton in September.

The Rev. F. A. H. Vinon exhibited a coloured drawing of a portion of a Roman pavement of very interesting design and character which had been opened out by himself and Mr. Cunnington in the neighbourhood of Charminster on May 4th.

Two papers were then read—one on "Our Ancient British Urns" by Dr. Wake Smart, which deals chiefly with the history of some of the finer specimens of urns now preserved in the County Museum. This paper is printed at page 180 of Vol. XII. "Proceedings." The other paper, "Witchcraft in Dorset" from the pen of Mr. J. S. Udal, now resident in Fiji, was read by Mr. Moule. It is printed at page 35 of this volume. On the conclusion of the paper Mr. Moule referred to the incidents mentioned in two of the works of Mr. Thomas Hardy—"The

Withered Hand" and "The Woodlanders"—where the belief was stated that human life is sometimes so bound up with the life of an individual tree that if injury or death were inflicted on the latter it would certainly overtake the man. Cases were cited of springs or wells at Bridport and at Cerne Abbas, which were still believed to have miraculous powers. Cases were also cited of individuals who were still regarded as witches, or as possessed with some miraculous powers. A unanimous vote of thanks was passed to the author of the paper, after which the meeting closed.

THE MEETING AT WAREHAM was held on Thursday, June 18th, upwards of 80 members and friends being present. The programme for the day included a visit during the morning to the principal churches of the town under the guidance of the Rector, the Rev. Selwyn Blackett, whilst the explanation of the old town walls was reserved for the afternoon.

In the ruined archway of old St. Martin's Church, the Rector said the church had passed quite out of the life of the town, although it still had its churchwardens, who held vestries, and nourished the dream that some day it might be restored. St. Martin's was probably built by Aldhelm, who died in 705, but since then it had undergone much alteration. It bore close resemblance to the church of Bradford-on-Avon, and had almost similar proportions. The church had been lengthened westward, whilst the north aisle was of later date than the nave. The east window was a modern insertion, but the north window dated back to Saxon times. Altars evidently stood under the south window of the nave and the east window of the aisle, and the chancel gates were probably under the aisle. The chancel would thus be a lady chapel. The south window by the chancel arch had been enlarged to form a pulpit, whilst the tower at the west end of the porch was a later addition. In 1762 the greater part of Wareham was burnt down, and the church was turned into a refuge for the homeless, and close by the spot where they were standing were the remains of a brick fireplace erected on that occasion. He, the Rector, had opened the floor of the chancel with a view to ascertaining whether it was, as reported to be, the burial place of King Bertric. A brick vault was discovered containing a nearly perfect human skeleton and various other remains, but amongst them there was nothing pointing to royalty. An opening was then made elsewhere, but here so many human bones were found that he closed it up. Doubtless the whole interior of the church was one great burial place. Though there was no evidence for it, it was quite possible that

King Bertric had been buried in this church, which had been built by his relative Aldhelm. Under the guidance of Mr. Hardy, of Swanage, many of the party inspected the outside of the building, where much was found to corroborate what Mr. Blackett had said. The church of Saint Mary was next visited, which is one of the largest and oldest churches in the county of Dorset. The oldest portion of the structure is the chapel of King Edward the Martyr, which was probably the chapel of the priory believed to have been founded by Aldhelm. Having pointed out the principal architectural features of the building the party were directed to the east end of the north aisle, where two inscribed stones, with another in the porch of the aisle on the south side of the tower, have been built into the wall for purposes of preservation. The deciphering of these stones has caused archaeologists much trouble. Mr. Blackett said the inscription on the large stone in the north aisle was believed to be "Cattug C, (Fi) lius Gideo" with the mark of contraction over the "e," expressing the genitive case Gideonis. This mark of contraction touches the second "t" in Cattug, and has by some antiquarians been taken for part of that letter which they had therefore read as "G." But only the previous day Mr. John Rhys, Professor of Celtic at Oxford, examined the stone, and he asserted it to be a not unusual mark of contraction of the genitive case. The stone was discovered built into a wall of the church at the restoration in 1842, and when it was placed in its present position for preservation it was unfortunately put in upside down. Much of the inscription was gone, and it was extremely difficult to form any decided opinion about it. Mr. A. Owen thinks it affords most important evidence of the existence of a British Christian church on this spot early in the fifth century. Cattug was the name of many religious persons in British history, and the principal person of that name who occurred in history was Cattug or Catocus, an Armorican Breton, who formed one of the deputation sent by the Gaulish bishops about 430 to revisit the churches in this country in order to oppose the Pelagian heresy then prevalent among them. He appears to have remained in England, and may have built a church or founded a school in Wareham. Mr. G. E. Robinson had described the stone in Arch. Cam., 1874, and identified Cattug with a Welsh saint. The other stone in the north aisle was alluded to by Mr. Blackett, who remarked nothing could be made of the inscription on this fragment but the name "Gongorie." In the Beckett Chapel at the south-east corner of the sacrairum was a fragment of stone with characters of the same date, and in the porch at the west end of the south aisle an inscribed stone there had the words "Filius VI.," also in

King Edward's Chapel a fragment of, apparently, a pillar bore some indistinct lettering of the same character.*

In the *Dorset County Chronicle*, October, 1841, there is a letter from the Rev. W. Barnes in reference to this inscription. He refers to an article in *The Foreign Quarterly Review* of that date, in which examples are given of Roman writing in the cursive character in inscriptions found on waxen tablets in a gold mine at Abrudhanya, in Transylvania, which are unique, and are described by Dr. Massman, of Leipsic. Mr. Barnes says he was "pleased to recognise in this writing the characters of the Wareham inscription."

Passing to the chancel the Rector pointed out that this part of the church was formerly much longer, but had been shortened in 1842 by about 10 feet to give greater length to the nave, which was then newly built. The destruction of the Norman nave which then took place caused great regret to Professor Freeman. A wooden screen removed in 1720 separated the choir from the chancel; a vaulted roof used to rest upon carved corbels, and was at a later date strengthened by the addition of another row of corbels of plain stone. A doorway of Norman chevron work led from the priests' room over King Edward's chapel into the chancel. The Rector drew attention to the large east window, the filling in of which with stained glass was only completed in 1890; the window itself was presented by the county to Hutchins, the Historian of Dorset and formerly incumbent of the parish. The organ was erected as a memorial to the late Mr. Miles Rodgett by his widow. The party then visited the little cell or chapel at the south-east corner of the sacraum. This chapel with the groined roof and curious stones in the wall is highly

* The following notes on these inscriptions have been lately received by the Rev. O. P. Cambridge from Prof. Rhys:—Referring first to the larger stone (fig. 1) Prof. Rhys says: "The whole will read 'Cattug. C . . . (f)ilius Gideonis.' The next (fig. 2) I read thus: 'Gongorie,' the genitive feminine (Gongoriae) of a name *Gongorie*, which I am sorry to say I have never heard of anywhere else. De Comson's *Cortulaire de Redon* has, p. 395, an 'Ecclesia Sancti Guengari, in Brittany.' This would make the Wareham name look like a sort of Latin feminine of Guengar. The reading of the next inscription (fig. 3) (what there is of it) I take to be

" . . . eniel . f(ilius)
" . . . ruprit . I . . .

" I imagine the first name to have been *Daniel*, an old Welsh form of Daniel. I read the next inscription (fig. 4) thus:

" VI ? ? V.
" filius VI.

" The meaning is not evident of the first line above the step. Then there was one more stone (fig. 5) with lettering, which I read somewhat as follows:—

" judn . . .
" fil . . . tiu —

" I cannot make anything of this. With the above readings, when correctly given, begins a question of another order: How came those Welsh names there, and when?"

interesting. In a will, dated 1404, reference is made to a chapel of Thomas à Beckett at Wareham, but it is difficult to say whether it alluded to this chapel or not. Notice was taken of the double piscina and credence, sedilia, and brass alms dish of Tudor date, after which the chapel dedicated to Edward the Martyr was visited. The building in the opinion of Mr. Blackett existed before St. Mary's, and was either the priory chapel or lady chapel of a church now destroyed. It was possibly the burial place of at least two kings—Bitteric or Bertric, King of the West Saxons, who was buried either here or at St. Martin's, and Edward the Martyr, who was stabbed at Corfe Castle in 978, and according to Hutchins was buried there, and was then removed to Shaftesbury. Attention was called to the piscina near by in which was now kept the curious stone carving of the Crucifixion formerly over the centre doorway of the north aisle. Sir William d'Estoke was buried in 1247 on the south side, and the effigy on the north might probably be his. The family of Estoke owned East Stoke, Stowborough, and Bestwall ("by the east wall"), and in the present day Bestwall still pays tithe to East Stoke. St. Mary's Church was stated to be rich in having two double piscina. Hutchins, the Historian of Dorset, was buried in King Edward's chapel.

From the church of Lady St. Mary the members were conducted to a structure of a totally different character—the church of Holy Trinity—an historic building whose venerable walls are now coloured blue, and devoted to the useful purpose of a mission chapel. This, Mr. Blackett said, was at one time the mother church of Wareham, and one of the very earliest. It was then called St. Andrew's, but after its destruction by the Danes it was re-built, and, though bearing its original name for some time, it appeared in the ancient documents as Holy Trinity. In a Papal Bull, dated 1145, it was called St. Andrew's of Wareham. It fell into ruin, and was used for some years as the National Schools, but it eventually became unsafe, and new schools were generously built by the Misses Rodgett. It was now used as a meeting place for religious or secular purposes. It was once the chapelry of St. Nicholas at Arne. Besides the three churches already visited there were formerly St. John's, on the site now occupied by the police station ; St. Peter's, where now stood the Town Hall ; St. Nicholas, in North-street at the corner of Cow-lane, and now turned into a stable ; All Saints, now called Globe House the residence of Mr. Daniell ; and St. Michael's, in West-street. Tradition said Wareham had 15 or 16 churches, but, as many of them had different names, they might have been counted twice over. The old registers of St. Mary's began in 1594, and another beginning in 1700 was

consumed in the great fire in 1762. In 1735, the register stated, Dr. Secker, Bishop of Bristol, confirmed a vast number, there having been no confirmation there in the memory of man. In 1749 Dr. Butler confirmed 1,100 and above 300 more of whom no account was taken ; in 1752 Dr. Conybear confirmed 260, and in 1770 Dr. Newton administered the rite to 1215. The register of St. Martin's began in 1762, the old register beginning 1540 and another having been consumed in the great fire. Shortly after that time, St. Martin's having been converted into a receptacle for poor people, all marriages and public baptisms were ordered to be solemnised at St. Mary's, by direction of Dr. Newton, then Lord Bishop of Bristol. That, Mr. Blackett remarked, was the disappearance of St. Martin's, which henceforth had no separate parish church of its own, though it still had church property and churchwardens.

Leaving the church of Holy Trinity the Town Hall was next visited, where through the kindness of Mr. Freeland Filliter and Mr. A. S. Drew an exhibition of objects connected with Wareham had been arranged expressly for the meeting. Amongst these an ancient silver chalice and paten were particularly noteworthy bearing the inscription :—“Lady St. Mary, Wareham.” These had been discovered by Mr. Montague Guest in the possession of a dealer in Kent, who purchased them and presented them to the town. Mr. Drew's collection, which was arranged by itself in a separate room, comprised various objects of Roman manufacture, which had been discovered in Wareham or the immediate vicinity during excavations for building purposes ; of these some of the vases were quite complete and in excellent preservation ; there were many ornaments and silver coins, tools for making pottery and Kimmeridge coal money. An adjournment was now made to the King's Arms for luncheon, at which some 60 members and friends were present ; the chair was occupied by the Rev. Sir Talbot Baker, Bart. After luncheon the Chairman referred to the serious illness of Mr. Mansel Pleydell, the president ; he expressed the thanks of the society to the Rev. S. Blackett for his excellent address in the morning and to Mr. Drew for exhibiting his collection at the Town Hall.

Three new members were then elected. The Secretary briefly indicated a provisional programme for the next meeting at Lyme Regis, which had been arranged for July 21st and 22nd.

The Chairman then requested the Secretary to read a paper, which had been announced on the programme, —“Wareham : Its Invasions and Battles.” This is printed at pp. 82—114 of this volume.

Mr. John Bellows, of Gloucester, subsequently gave a most excellent address on “The Roman Origin of Wareham,” which he illustrated by

ground plans of Wareham, Gloucester, and the Pretorian Camp at Rome, of which several copies were circulated amongst the members.

The Rev. W. Densham read a short paper on "The Special Botany of Wareham." He said that one of their ancient names was the "thorny district," and certainly the prickly gorse and bramble abounded; still on the heath and along the water courses were a number of wild flowers which are not found in the richer and drier regions of the country. On the heaths the bog asphodel, sundews, the fragrant bog myrtle, the marsh gentian, and the cotton grass were to be found. The *erica ciliaris*, the largest and most beautiful of the British heaths, grows plentifully on Stoborough Common towards Arne. These heath-covered wastes are beautiful twice a year, in the spring when covered with the showy gorse and broom, and later on when covered with the not less beautiful but more modest heaths. Along the river Frome grew the water avens, the marsh cinquefoil, the yellow meadow weed, the great yellow loose trife, and the tree marigold; on the estuaries the sea starwort and the sea lavender; on the meadows and marshes near the harbour the sea milkwort, the small marsh valerian, and the buckbean perhaps, the choicest product of the meadow and the marsh; in the ditches the arrow head, the great water plantain and the flowering rush were to be found. The wild celery grew profusely around the mouths of the two rivers where they enter the harbour. The *osmunda regalis* was widely distributed over the surrounding district.

Leaving the hotel the members made the circuit of the old Town Walls under the guidance of the Rev. W. Densham. Attention was directed to the spot known as the "Cockpit," which Mr. Bellows considered must have formed a portion of a Roman Amphitheatre. On the conclusion of this walk the Rev. O. P. Cambridge proposed a vote of thanks to the Rev. W. Densham for his efficient guidance. The party then broke up at about 5 p.m., finding hospitality provided for them at the residences of Mr. Freeland Filliter, the Rev. Selwyn Blackett, the Rev. Stewart Ridley, and the Rev. W. Densham.

THE LYME REGIS MEETING.—One of the most successful meetings of the Field Club was held on Tuesday and Wednesday, July 21st and 22nd, at Lyme Regis. The programme, prepared for the occasion with the assistance of A. Lister, Esq., and Dr. Bangay, of Lyme, included an excursion in Devonshire with luncheon at Sir Henry Peek's on Tuesday, followed by an evening meeting at the Town Hall, whilst on Wednesday the chief points of interest in Lyme Regis itself were to be visited, followed by a luncheon at Mr. Lister's house and an address on his special subject of study, the Mycetozoa.

Tuesday morning opened dull and misty with every appearance of a bad day to follow. The majority of the party reached Axminster (the station for Lyme) by the 10.35 train from Templecombe and Yeovil. Here many brakes and carriages were in waiting, and in a few minutes a start was made for Ashe. The party now numbered about 60, and on reaching Ashe House they dismounted to inspect what remains of this once historic Tudor mansion, which is now occupied as a farm house. In the open ground in front of the house the Secretary briefly described the features of the country through which they were driving and the plan of excursion which the programme contained. He said their route that day lay along the valley of the Axe, which rises in Dorsetshire at Cheddington Copse, about two miles north-east of Beaminster, much of its course lies in Somersetshire; from Axminster it flows in a south-westerly direction to Axmouth, where it enters the sea. The name Axe is of British or even Phenician origin, signifying "water," and is therefore allied with such names as Ouse, Usk, Esk, and Isis. For the district which they were about to visit Pulman's "Book of the Axe" is the best authority; Hutchins' "History of Dorset" does not treat of the valley towards the sea. The "History of Lyme Regis," written by George Roberts in 1823, contained much interesting information about the town and vicinity, especially during the troubled days of the Commonwealth and of Monmouth's rebellion. An allusion to the valley would be found in that curious poem of Michael Drayton, published in 1612, entitled "Polyolbion." With regard to Ashe House, Pulman says: "Delightfully situated on the eastern side of the valley of the Axe is what remains of the once famous residence with which is associated the name of one of the greatest military heroes of England—one who moreover played a conspicuous part in the political affairs of the eventful period in which he lived—

"The man to distant ages known,
Who shook the Gallic, fixed the Austrian throne."

"Years and years have passed since the splendour of the old manorial state was rife at the ancient and gentle seat of Ashe. The past is verily but as a dream, and men now gaze upon the quiet homestead and ask incredulously: 'Is this the birthplace of the Duke of Marlborough?'

"Its first owners, as far as can be discovered, were the family of De Esse or De Ashe, to whom it was given by John Lord Courtenay—Lord of the Manor of Musbury. Thence by marriage it passed to the families of Stretch or Street, and Hampton. Alice, daughter of Warren Hampton, carried it by marriage to John Billett, whose heiress, Christiana, in the reign of Henry V. (1412-22) married first John Duke of Exmouth. Their

descendants in 1588 died and with his wife were buried in Musbury Church. They had six children, of whom one, afterwards Sir Barnard Drake, was ranked second amongst the famous sea captains of his time."

From Pulman's "Book of the Axe" we further learn that on September 14th, 1625, the Duke of Buckingham, Earl of Holland, Earl of Derby, and divers other gentlemen lay at Ashe and passed through Colyton. The King lay at Pauletts, at Hinton St. George, Somerset. They were then on their way to review the army and the fleet about to embark on some attempt against the dominion of Spain. The family genealogy is further traced to the marriage of Elizabeth with Sir Winstone Churchill, of Minthorne, Dorset, who, for his adherence to the cause of Charles I., was much harassed by the Commonwealth and remained for some time at Ashe, where on June, 24th, 1650, the lady gave birth to a child, who became the famous Duke of Marlborough. The house at Ashe was burnt in the civil wars, but rebuilt by Sir John Drake in 1669. On the 24th September, 1787, a fire broke out which consumed the offices and stables with 13 coach horses and hunters. The property subsequently passed to Mr. G. Tucker, Axminster, thence to Mr. Marwood Woolcott, of Sealcombe, and now belongs to Captain Still. Only a fragment of the old mansion house of the Drakes remains, with the ancient chapel, which is very small and in the Perpendicular style of architecture, used now as an outhouse.

After walking round the orchard, formerly occupied by the fish ponds and ornamental ponds of the family residence, and examining a carved oak mantelpiece and remains of old woodwork within the dwellinghouse, the drive was resumed to Musbury Church, distant a little over a mile. The oldest part of the building appears to belong to the 13th century, but it has undergone so much repair and alteration that little of the original fabric remains. Its chief interest lies in the fine series of monuments which it contains, erected to members of the Drake family. These are in the best style of the Elizabethan period, and offer examples of mural monuments of that age such as are seldom seen in a country church. They consist of kneeling figures in three pairs—male and female—the males in full armour, the females in the costume of the period in which they lived. The inscriptions underneath record the death of—

John Drake, Oct. 4, 1558.

His wife, Annie, Feb. 18, 1577.

John Drake, buried April 11, 1628.

Dorothy, his wife, Dec. 13, 1631.

Sir John Drake, Aug. 26, 1626.

Dame Mary Roswell, wife of Sir Roger Roswell, Nov. 4, 1643.

And of Sir Barnard Drake and his wife.

The following inscription referred to the latter :—

“Here is the monument of Sir Barnard Drake, Kt., who had to wife Dame Garthod, the daughter of Bartholemew Fortescue, of Filly, Esqre., by whom he had three sons and three daughters, where of whear five living at his death—namely, John, Hugh, Marie, Margaret, and Helen. He died 10th April, 1586, and Dame Garthod, his wife, was here buried 12th February, 1601, unto the memorie of whom John Drake, Esqre., his son, hath set this monument. Anno. 1611.” The church contains another memento of the Drake family in its Communion plate, which is very handsome, consisting of a flagon, a chalice, and two salvers, all of silver and weighing 4lbs. and 1oz. An inscription records its presentation in 1730 by Sir William Drake. The parish registers are very interesting, commencing from the year 1653. They contain a memorandum of an older register, bearing date from April 28th, 1562, which has, however, entirely disappeared.

Above the village, Musbury Castle occupies a commanding position on the summit of the hill. It forms one of a chain of earthworks extending from Axmouth on the coast a long distance inland, which it is believed were constructed by the Durotriges or Morini of Dorset as a defence against the incursions of the hostile Danmonii of Devonshire.

The day had now become delightful, and the Devonshire country was looking its best. After leaving Musbury a drive of half-an-hour through narrow lanes brought the party to Coombpyne. At first sight there was nothing specially attractive in the appearance of this little village. The parish anciently belonged to the family of Coffin and was then called Coombe Coffin; subsequently in the time of Henry III. it passed to the family of Pyne, the owners of Shute, and was then called Coombpyne. The principal farmhouse, adjoining the church, was in the time of Edward I. a convent, and traces of the ancient buildings and nuns' walk are still visible. The church is interesting, belonging to the 13th century of Early English and Decorated styles of architecture, consisting of a nave, chancel, tower, and porch, with triple lancet window over the Communion Table. But the chief attraction lay in the set of Communion plate which is the possession of Coombpyne. This dates to the latter part of the 15th century, and therefore is one of the few remaining examples of pre-Reformation Communion plate in this country. In his work on “Old English Plate” Mr. Cripps figures and describes the plate of Nettlecombe, Corpus Christi, and Trinity College (Oxford), and says that “these with other found at Leominster, Chewton Mendip, Coomb Pyne, and Wyllie are all that have come to the knowledge of the writer.”

The bowl of the chalice is plain and the base hexagonal, whilst in the middle of the paten is engraved a representation of the Saviour's head, surrounded by a nimbus.

Coombayne possesses an additional interest in its connection through his mother's family with Doctor Buckland, "one of the fathers of English Geology." He was born at Axminster in 1784 and acquired his taste for geology in the Lias quarries of that neighbourhood. Speaking of his early life he wrote "that the love of observing natural objects, which is common to most children, was early exhibited by my finding birds' nests and collecting their eggs. I also made observations on the habits of fishes in the Axe, particularly flounders, minnows, roaches, eels, and miller's thumbs." He was an early friend of Miss Anning, the celebrated Lyme geologist, and his association with the late Rev. W. D. Conybeare, for some years vicar of Axminster, was of many years' duration.

After leaving Coombayne a short drive through the green lanes of Devonshire had to be accomplished, and Rousdon, the residence of Sir Henry Peek, was reached at two o'clock, where the party was received with great hospitality. Luncheon was served in the hall shortly after the arrival of the party, which now numbered about 80. The chair was taken by Sir Talbot Baker. After luncheon the health of the Queen was proposed. The Chairman said he was glad to be able to announce the recovery to health of their President, Mr. Mansel-Pleydell. He referred with sympathy to the recent death of Sir Frederick Weld, who just two years previously had entertained the Field Club at his house at Chideock during the Bridport meeting.

Five new members were then duly proposed and elected. The Secretary read a brief description of the famous landslip, which occurred on Christmas Day, 1839, and extends from the immediate vicinity of Rousdon on the sea coast towards Axmouth, a full account of which is given at page 883 of Pulman's "Book of the Axe." From this it appears that a fortnight prior to the catastrophe the inhabitants of some cottages on the Dowlands under cliff noticed a slight settlement, and on December 23rd William Critchard, one of the cottagers, noticed that his front door opened and shut with difficulty, and that cracks were appearing on the walls. Christmas Eve was celebrated in old fashioned style at Bindon Farm with the burning of an ashen faggot and merry-making, in which the labourers participated. Critchard and his wife locked up their cottage and spent the evening at the farm, from which they returned about one o'clock in the morning, when they noticed the path down one side of the cliff had sunk a foot. They went to bed, but

were alarmed during the night by the sinking of the walls. Getting up at five o'clock in the morning great force was required to open the door, while large fissures had appeared in the garden. The inhabitants of the neighbouring cottages were alarmed, and they proceeded to remove their furniture from their dwellings as fast as possible. All Christmas Day strange movements of the ground proceeded. A rabbit shooting party escaped with difficulty from being swallowed up in the numerous fissures, which continually opened in their path. The final catastrophe occurred on Christmas night, when the whole side of the cliff sank into an immense cavern, pushing into the sea the land lying immediately in front of it. The Coastguard on duty stated that a noise like the rending of cloth accompanied the movements of the ground, and noticed a reef gradually rising above the water at some distance from the shore. This newly formed land remained for some time, but disappeared after one of the gales from the westwards.

A memoir was drawn up shortly afterwards on the phenomena which took place at this time by Dr. Buckland and the Rev. W. D. Conybeare, in which occurs the following sentence in summing up the evidence :— “ Although the convulsion can only be ascribed to the less dignified agency of land springs constantly undermining the substrata, yet in the grandeur of the disturbances it has occasioned it far exceeds the ravages of the earthquakes of Calabria and almost the vast volcanic fissures of the Val de Bove on the flanks of Etna.”

With the view of celebrating this famous landslip a festival was held on the site on the 25th of August the following year, 1840, when “ the corn was reaped by a party of young ladies acting as Nymphs of Ceres. Thousands of people were present, booths were erected, and the affair was made as much a matter of jubilation as if in honour of some great national or local achievement.”

The geological features of this landslip are described in Woodward’s “ Geology of England and Wales.” The writer states that “ some of the most striking landslips occur along the south coast of Devon and the coast of Dorset between Sidmouth and Lyme Regis. There the chalk and greensand stretch over the denuded edges of the Lower Lias, Rhaetic Beds, and Red Marl, which are of clayey nature. The cretaceous beds in places dip slightly towards the sea, and numerous springs are given out at the junction of the greensand with the impervious strata ; portions of the lower sandy beds of the greensand moreover would be actually removed by springs. Therefore we should have every condition favourable for landslips. . . . A landslip occurred at Bere Head in 1790. The great landslip of Dowlands and Bindon took place at

Christmas, 1839. The length of the chasm caused by this founder was 1,000 yards, breadth 300 yards, and depth from 130-210 feet, whilst 22 acres of land were sunk in the chasm. Landslips have occurred at Portland in 1665, 1734, 1750, 1792, and also at St. Alban's Head."

After luncheon the party separated ; some under the guidance of Doctor Bangay were conducted over the private observatory of Sir Henry Peek ; the fine collection of British birds was described by Mr. Arthur Lister ; Mr. Grover, the curator, introduced a third party to the Museum contained in the house ; whilst others visited the church in company with the Rector, the Rev. J. Curgenven.

At four o'clock a party set out to walk by way of the landslip to Axmouth, a distance of about three miles, by which they were able to see some of the finest scenery on the southern coast. At Axmouth carriages were waiting to carry them back to Lyme Regis.

At 7.30 the members dined together at the Golden Lion Hotel by the invitation of the Mayor of Lyme, Mr. T. E. D. Philpott, and at 8.30 an evening meeting was held in the Town Hall, where several of the municipal documents of this ancient borough were exposed to view, and proved of great interest. Many other objects were exhibited in the rooms ; for instance, drawings and engravings of the old Cobb, or breakwater, the landslip, and of various buildings in the town, books, and specimens of the local industry of cushion lace. For the care and trouble taken in arranging this exhibition the party was greatly indebted to Dr. Bangay, of Lyme Regis. Two papers were read at the meeting, one by Mr. Z. Edwards, descriptive of the municipal documents of Lyme Regis and the history of the town, the other by the Secretary, on Captain Thomas Coram, born at Lyme in 1668, the founder of the Foundling Hospital. This paper will be found at pp. 144—151 of this volume.

WEDNESDAY, JULY 22ND, proved bright and fine with the exception of two heavy showers. The official programme commenced at ten o'clock, when the members met outside the Red Lion, and, under the guidance of Mr. Edwards, ex-Mayor, proceeded to visit various spots of interest in the town—Lord Chatham's house, Sherborne Lane, the old Town Mills, the Church, the Lynch, and the Cobb. This tour of inspection, hindered as it was by the weather, occupied the party until about 12.30, when most of them assembled in Mr. Lister's garden at Highcliff to listen to an exposition on the geology of Lyme Regis by the Rev. H. S. Solly. He said Lyme Regis was classic ground for the geologists. It was associated with the names of "Captain Carey," who 100 years ago sold Ammonites as curiosities to passengers on the coaches, his real name being Lock ; of

Marry Anning, who in 1811 discovered the fossil bones of the Ichthyosaurus, and afterwards of the Plesiosaurus, and who in 1825 discovered, for the first time in England, the remains of the Pterodactyl. Then there were the names of Thomas Hawkins, who wrote the book of the Great Sea Dragons, and of some of the founders of the true science of geology, Buckland, Conybeare, and De la Beche, who resided in his youth both at Charmouth and at Lyme, and whose first maps of the Geological Survey, now sheets 21 and 22, embraced the country near Lyme Regis. The hills above and on either side of the town are outtiers of chalk and greensand, spurs of the Blackdown ridge in Devonshire. Concretions of greensand, harder than the strata generally, form the "cowstones" like the greyweathers of Wiltshire. The Cobb is chiefly built of these with a facing of Portland roach. The Rhaetic beds form the highest division of the Trias immediately underlying Lyme Regis. At Pinney Bay, some two miles to the west of Lyme, is an exposed section of White Lias, which is now reckoned as one of the Rhaetic beds—*i.e.*, Trias and not Lias. Fossils are not plentiful here, but may be obtained from quarries at Uplyme. Above the White Lias comes the Blue Lias, 105 feet in thickness, consisting of four zones, distinguished by the characteristic Ammonite of each, the *Planorbis* zone, *Amm.*, *Angulatus*, *Bucklandi*, *Turneri*. The Blue Lias descends below the sea at Lyme Regis itself, but rises again in the church cliffs east of the town. Among the fossils easily found in it are *Rhyneonella variabilis*, *Gryphaca arcuata*, *Nutilus striata*, and *Lima gigantea*. The Blue Lias is extensively worked along the cliffs for hydraulic cement, stucco, &c., and this has a good deal to do with the wasting of the cliff, especially to the east of the town. Between 1803 and 1834 ninety feet in breadth of the Church Cliffs were lost, and the old road to Charmouth has for the most part slipped into the sea. Above the Blue Lias about 190 feet of dark slabs succeed, giving the name of Black Ven, and divided into the zones of *Ammonites obtusus*, *Avoxynotes*, and *A. raricostatus*. They contain bands of limestone, and here the first Saurian remains were found. In the President's paper on the Fossil Reptiles of Dorset ("Proceedings" D.N.H. and A.F.C., Vol. IX.) he enumerates 7 species of Ichthyosauri, 6 Plesiosauri, 1 Pterodactylus having been found at Lyme and Charmouth, whilst H. B. Woodward mentions an additional species of each of the above, and 1 Deinosaur. In these beds were also found the "Coprolites" described by Buckland. Remains of fish are abundant; Crustaceans and Echinoderms are also found, and fine examples of *Extracrinus briareus*. Belemnites are plentiful, and as early as 1826 Buckland had obtained specimens exhibiting

fossil ink, from which Sir Francis Chantrey had some sepia drawings prepared, pronouncing the ink of excellent quality. Prof. Huxley speaks of these Belemnites and their ink bags in his monograph for the Geological Survey in 1864. Iron pyrites is abundant in these beds, and used to be collected for the manufacture of sulphuric acid. Its decomposition in the beds after a fall of rain is accompanied with heat and smoke, and in one instance, 1751, the cliffs near Charmouth were seen to burst into flame, the result of this spontaneous combustion. Above the dark clay of Black Ven comes a bed of dull Grey Marl 80—90 feet thick known as Belemnite bed, that being the only fossil abundant. It is capped by a thin bed of pale Grey Limestone—the Belemnite limestone, very fossiliferous. This is best seen at the base of Golden Cap at low tide. Above this stone come bluish Grey Clays, which in Stonebarrow Cliff are 100 feet thick, called the green Ammonite beds, from the green tint of the calc spar which fills the cavities of the characteristic Ammonite, *A. lataecosta*. This bed is the highest of the lowest Lias strata. Much of it and all above it has disappeared from Black Ven, the summit of which, like most of the neighbouring hills, is Greensand of the Cretaceous series. The most interesting feature of this is a small bed of Gault, 20—25 feet thick, furnishing several characteristic fossils. Above this comes some 80 feet of yellow and grey sand containing bands of sandstone concretions known as Cowstones. Highest of all are some 20 feet of broken chalk and gravel beds. This concludes a notice of the geology of Lyme Regis, but from the Cobb a view of the cliffs extending to the east may be obtained, displaying a continuous succession of all the beds of the Middle and Upper Lias, followed by the important strata of the Oolitic series, as well as by outliers from the Jurassic and Cretaceous periods.

The party were then most hospitably entertained at luncheon by Mr. and Mrs. Lister at Highcliff, following which Mr. Lister delivered a highly interesting address on the group of *Mycetozoa*, on the study of which he has been engaged for many years. Illustrations of the principal and typical forms, drawn by means of the camera lucida, were hung around the room. After the address was concluded the party were conducted to another room, where under several microscopes some of the chief features in the life history of this group of organisms were exhibited.

From Highcliff the party were conducted to Belmont, the residence of Doctor and Mrs. Bangay, who had taken a very active part in the successful arrangements of the meeting. Here tea was served in the garden, and one object amongst others excited much interest—a fine specimen of a fossilized *Calamus*, which had been discovered on the sea beach near Lyme. It measured 30 feet in length, and was taken up in

seven sections and fixed against the garden wall. The party then took leave of their kind hosts, and started for the Axminster Railway Station. This brought another thoroughly successful meeting to a conclusion.

THE LULWORTH MEETING was held on Wednesday, August 19th. From the rendezvous at Wool station the party proceeded to Lulworth Cove, where they were joined by many others residing in the neighbourhood. Here the business of the day was attacked. The President returned thanks to the Club for once more electing him, and for the kindly expressions of sympathy which he had received from time to time during his late illness. He then delivered an address on the geological features of the Cove, which were clearly visible from where they were standing, of which only a digest can be given here. He said he did not know a more interesting geological district than that now presented to them. The whole series of the Wealden and Purbeck is compressed within the limits of the Cove. The Purbeck beds range from the Paludina bed at the top to the dirt bed at the base, where the old land surface is exposed, on which grew extensive forests, the stumps and roots of which may now be seen in the cliff. One of the Cycads (*Mantellia nidiformis*) is described and figured in the second volume of the "Proceedings" of the Club. The Cycads belong to the family now growing only in the tropical and temperate regions of America and Asia. The conifers belong to the family Araucaria. The deposition of the dirt bed must have occupied a long period to allow for the growth of extensive forests, which extended as far as the Vale of Wardour. The lower Purbeck beds rest unconformably on the Portland beds, and must have been submerged when the area on which the forests grew formed the estuary of the Purbeck river, as well as that of the Hastings river, which vied in extent with the estuaries of the great rivers of America and Asia—with the Mississippi and the Indus. The whole district was submerged more than once, and entirely dominated by the sea, but there is no evidence of any sudden or violent disturbance. As the inclination of the beds is similar to that of the superincumbent chalk and greensand, the whole mass was probably raised during great disturbances and denudations subsequent to the Eocene period, affecting the Isle of Wight, Purbeck, and the Weymouth areas, and are perhaps synchronous with the great Ridgeway Fault. The calcareous slabs which cap the dirt bed are broken up, and recemented by a stalactitic deposit. Above these follows a series of marly limestones alternating with thin clays abounding in Cyprideae, freshwater shales, fish scales, and an Isopod Crustacean *Archaeoniscus*. The middle beds differ from the upper and lower in

containing intercolated marine bands ; of which one, locally known from its dark colour as the cinder bed, is almost entirely composed of small oyster shells. A thin band which divides the cinder bed into two parts contains *Hemicidaris Purbeckensis*, Forbes, the only Echinoderm which has yet been discovered in the Purbeck beds. The interesting remains of turtles which grace the shelves of our National Museum are here found, but the most interesting of all are the mammalian remains, consisting of Marsupials, which Sir Richard Owen found to belong to no less than 25 species. This mammiliferous bed contains also two species of dwarf crocodiles. The remains of fish are widely dispersed, consisting chiefly of scales, teeth, and palates of *Aspidorhyncus fisheri*, *Lepidotus Histonotus angularis*, and *Pholidophorus ornatus* may be seen in the County Museum. The Wealden beds at Lulworth occupy a nearly vertical position, and are represented by alternations of red and purple coloured clays, white and yellow sands, and occasional beds of quartzose sandstone or grit, with lignite at the base. The quartzose sandstone is probably derived from the waste of the Palæozoic rocks of Devonshire. At the top of the Wealden there are beds of a fluvio marine character showing similar conditions to the Purbecks—alternations of freshwater, brackish water, and marine, indicating a return to marine conditions. To these the name of Punfield beds has been given by Mr. Judd from Punfield Cove in Swanage Bay, where they are well developed. The remarkable degrees of inclination which the chalk strata presents on this coast deserve notice. They vary from horizontal to vertical, and are in some instances curiously contorted. At Swanage and Warbarrow Bays the curved strata and the vertical meet at a line of fault. In Mewps Bay, which the members will see on their way to Arish Mill, are exhibited along the shore the Upper Chalk, the Lower Chalk, Chalk Marl, and Upper Greensand. These beds are not so well seen at Lulworth Cove owing to the fallen state of the cliff.

Subsequently the party crossed the Cove in boats and proceeded along the edge of the cliff to view the Fossil Forest. From this point they crossed some fields and then began the ascent by the narrow coastguard path of Bindon-hill, from the summit of which a magnificent view of the coast line was obtained. Arriving at Arrish Mill Gap a halt of about half-an-hour was made for luncheon, and three new members were elected. From this point Lulworth Castle was reached shortly before three p.m. Here they were welcomed by Mr. H. Weld Blundell, the Misses Weld, and Mr. and Mrs. Walmsley. Here Mr. Weld Blundell read a paper on the history of Lulworth Castle and some of the objects of interest which it contains. (This paper will be found at pp. 140-143.)

The following objects were displayed for examination :—

The Louterell Psalter.—A folio Psalter made by order of Geoffrey, Lord Louterell, 1st Baron of that family, who died 25th Edward I.

A Manuscript Bible—" Interpretationis St. Hieronimi."

A missal of 13th century or thereabouts.

Two Prayer Books of somewhat later date.

The seal of William Weld, High-Sheriff of London 1352, who built Aldgate.

After the conclusion of Mr. Weld Blundell's paper the party, now numbering upwards of 80, were most hospitably entertained at tea. The grounds surrounding the house were then explored, and the members then left for the Wool station to catch their respective trains. Thus ended another highly enjoyable day and with it the summer programme for 1891, the meeting agreed upon (on the 27th of May) at Sturminster Newton having through unavoidable circumstances fallen through.

THE FIRST WINTER MEETING was held in the County Museum, Dorchester, on Wednesday, December 9th, the President in the chair. Five new members were elected. Amongst the objects of interest brought to the meeting the Earl of Portarlington exhibited a small but beautifully shaped figure of Apollo in bronze, and a glass vase, both of great age. The President showed some photographs of the excavations lately made in the Dewlish Pliocene "Elephant Bed." The programme of the day included the Presidential Address for 1891 (printed in full at p. 1-29). At the conclusion Mr. T. B. Groves referred to the influence of the extreme cold of the preceding winter on bird life, which had been touched upon by the President. He said that owing to the violent gales which they had lately experienced a great number of birds not often found in that neighbourhood had been driven on their coasts. For instance, the gannet had been very abundant. He also mentioned that that very morning a man had brought him a live adder, found coiled up on a bank as if it were Midsummer. Mr. N. M. Richardson endorsed Mr. Groves' remarks on the effects of the cold winter. On one day during a country walk he counted between 70-80 dead birds, of which one-half appeared to have fallen a prey to hawks. Doubtless the hawks found the small birds an easy prey when they were weakened by the cold. Adders had been very common that year. He had made, for instance, three expeditions to a certain wood during the summer and had killed an adder on each occasion. Mr. Mansel-Pleydell stated that during the previous week his keeper had seen two or three swallows flying about, which was an unusually late date for them.

Mr. H. J. Moule read a paper entitled "Notes on the Manor of Fordington" (printed at pp. 152—162).

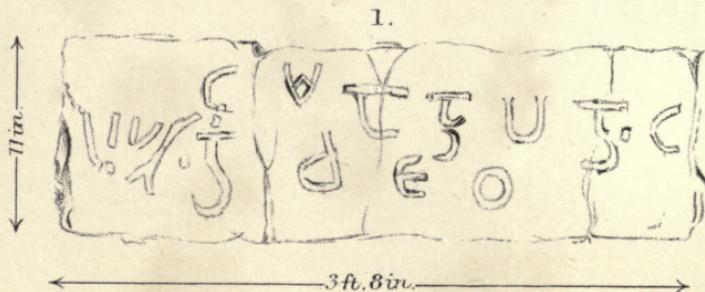
The President read a paper on "An Interment on the Verne, Portland" (printed at pp. 222—238.)

The Rev. W. Miles Barnes read a paper entitled "The Diary of William Whitway, of Dorchester, Co. Dorset, from Nov., 1611, to Nov., 1634," from a MS. in the British Museum. The writer was one of the leading burgesses of the Dorchester of his day and owned an estate in the parish of Martinstown—see pp. 57—81. This brought the meeting to a close.

THE SECOND WINTER MEETING.—This was held at the County Museum at Dorchester on Wednesday, Feb. 10th, 1892. The chair was taken by Mr. Mansel-Pleydell, the President, at noon. Three new members were elected. The Treasurer laid on the table the reports of the National Footpaths Preservation Society, to which the club is a subscriber. Some discussion took place on the schedules issued by the Field Club for recording observations on birds, plants, and insects, to which Mr. H. S. Eaton, who had taken a leading part in drawing out the schedules for a similar purpose now in use by the Royal Meteorological Society, contributed the benefit of his experience. The feeling of the meeting was opposed to reducing the list of species to be observed, which was suited to the varied features of the county of Dorset.

The migration of the nightingale then formed the subject of some discussion. Mr. Pearce Edgecumbe said that the town of Dorchester seemed to be situated on the extreme western limit of the nightingale country. Some years ago two nightingales visited Dorchester and took up their abode in the Cemetery. They were identified by their eggs found in the nest. Mr. Eaton said he heard a nightingale during the previous spring at Lyme Regis, and he learnt that nightingales were occasionally heard there. This, of course, was considerably west of the county town. The Rev. O. P. Cambridge said he had heard them frequently many years ago in Yellowham Wood. Mr. Moule said they were still to be heard there. Mr. Thomas Hardy had told him that in his youthful walks between Dorchester and his home at Higher Bockhampton he often heard the nightingales all the way. The Chairman said he thought Yellowham Wood was about the western limit of the tract of country frequented by the nightingales. Why they neglected the western part of England for the eastern part he could not understand, unless it was on account of the prevailing winds.

The President read the first paper on the programme of the day— "Kimmeridge Coal-Money and other Manufactured Articles from the



INSCRIBED STONES IN ST. MARY'S CHURCH, WAREHAM.

EXPLANATION OF PLATE.

Figs. 1 and 2. Stones built into the wall at east end of north aisle.

Fig. 3. Fragment of stone in Beckett Chapel.

Fig. 4. Stone built into wall of porch at west end of south aisle.

Fig. 5. Fragment of stone (apparently portion of a pillar) in King Edward's Chapel.

For descriptions of the above see p. xxiv.

Shale"—which will be found at pp. 178—190 of this volume. The next paper on "Notes on Dorset Lepidoptera during 1891" was read by Mr. N. M. Richardson and will be found at pp. 168—177. The President read a paper on "The Occurrence of *Lamprothamnus Alopecuroides* in Dorsetshire," which was illustrated by some excellent drawings. This paper is printed at pp. 163—167. A paper on "Some Monstrosities of *Littorina rufa*" (by Mr. E. Sykes) was read by Mr. Richardson, and is given at pp. 191—198. The Rev. O. P. Cambridge read a paper on "British *Pseudo-Scorpiones*"—printed at pp. 199—231. The Rev. W. Miles Barnes read the last paper of the day on "The Fire of Dorchester in 1613," from a curious tract which he had met with in the British Museum, entitled "Fire from Heaven." This brought the meeting to a close, and with it ended the work of the year 1891-2.



Derby Natural History and Antiquarian Field Club.

Dr. RECEIPTS and EXPENDITURE from MAY 25th, 1891, to MAY 11th, 1892. Cr.

1891.	RECEIVED.	£ s. d.	1891.	PAID.	£ s. d.
June 1—Balance from 1890-91	... " 5 6 4		June—Sime and Co., balance due last Year	... 3 13 3	
May 9—Subscriptions and Arrears to date	... 128 8 0		Aug. 24—"Bridport News," advertising Meeting at Lyme Regis	... 1 5 0	
Sale of "Spiders of Dorset"	... 2 10 0		„ West, Newman, and Co., advertising	... 0 5 0	
Ditto "Proceedings"	... 8 11 0		„ Vol. xi. ... 0 5 0		
Ditto "Phalangidea"	... 0 10 3		„ E. Carter, Engraving Plate	... 2 2 0	
Balance from Stuart Memorial Fund	... 0 3 6		Dec. 4—Automatic Engraving Company, En- graving Four Plates	... 6 12 0	
Balance from Collections for Expenses at Meetings	... 0 15 0		„ Mintern's Bill, Engraving Plates	... 33 11 3	
Dec. 9—Voss, Museum, arranging Room for Meetings on May 27th and Dec. 9th, 1892.			Dec. 9—Voss, Museum, arranging Room for Meetings on May 27th and Dec. 9th, 1892.	0 10 0	
Mar. 10—Messrs. Sime and Co. (on account) for Printing, &c., Vol. xii., &c.			Mar. 10—Messrs. Sime and Co. (on account) for Printing, &c., Vol. xii., &c.	85 0 0	
May 5—Stamps, Wrappers, Post Cards, and Parcels (Treasurer)			May 5—Stamps, Wrappers, Post Cards, and Parcels (Treasurer)	... 3 6 9	
Balance in hand			Balance in hand	... 9 18 10	
					£146 4 1

Dorset Natural History and Antiquarian Field Club.

GENERAL STATEMENT,

1891—1892.

Dr.

Cr.

	£ s. d.	£ s. d.
By Arrears for more than One Year	... 31 0 0	By Balance due to Messrs. Sime and Co...
By ditto for One Year, 1891	... 22 10 0	Balance in favour of Club
By Subscriptions still due for 1892	... 113 10 0	... 17 14 8
By Cash Balance in hand	... 9 18 10	... 159 4 2
		£176 18 10
		<hr/>

New Members Elected since the Publication of Vol. xii.

DORCHESTER, DECEMBER 9TH, 1891.

Browne, Jukes, Esq.	Geological Survey Office, 28, Jermyn Street, London.
Nantes, Charles, Esq.	Bridport.
Allhusen, Wilton, Esq.	Came House, Dorchester.
Sykes, Ernest R., Esq.	Weymouth.
Damon, Robert, Esq.	Weymouth.

DORCHESTER, FEBRUARY 10TH, 1892.

Cope, Rev. J. Staines	Chaldon Herring Vicarage, Dorchester.
Howell, Rev. F. B.	Upwey Rectory, Weymouth.
Stone, Walter Boswell, Esq.	Shute Haze, Walditch, Bridport.

DORCHESTER, MAY 11TH, 1892.

Groves, W. E., Esq.	Ice Road, Dorchester.
Drucker, Adolfe, Esq.	Milton Abbey, Dorchester.
Highton, Rev. Edward	Tarrant Keynston Rectory, Blandford.
Jackson, C. W., Esq.	Grammar School, Dorchester.

DORCHESTER, JUNE 9TH, 1892.

Hardwick, Stewart, Esq.	Bournemouth.
Hadow, Rev. J. L. G.	Melcombe Regis Rectory, 18, Royal Terrace, Weymouth.

* NEW FOREST, JULY 20TH, 1892.

Symonds, Henry, Esq.	Oakdale, Farquhar Road, Edgbaston, near Birmingham.
Acton, Rev. Edwin	Hinton St. Mary Rectory, Blandford.

SHERBORNE, AUGUST 3RD, 1892.

Medlycott, Sir Edward B.	Ven, Milborne Port, Sherborne.
Marshall, Rev. Charles J.	Shillingstone Rectory, Blandford.
Ricketts, George H. M., Esq.	Nash Court, Marnhull, Sturminster Newton.
Chaffey, Robert S. C., Esq.	East Stoke, Stoke-under-Hambdon, Somerset.

SWANAGE, SEPTEMBER 7TH, 1892.

Bowen, J. H., Esq.	Bank Buildings, Weymouth.
Budden, F., Esq.	St. Cuthberga, Wimborne Road, Bournemouth.
Baker, E. Whitley, Esq.	Glencairn, Wimborne.
Long, Rev. D.	Broadwey Rectory, Weymouth.
Yeatman, Right Rev. H., Bishop of Southwark	Dartmouth House, Blackheath Hill, London, S.E.
Bate, — Esq.	Wilts and Dorset Bank, Blandford.
Lock, B. F., Esq.	Lincoln's Inn, London, W.C.
Burt, F. A., Esq.	Swanage.
Watts, Colonel	34A, South Audley Street, London, W.
Hall, Captain Marshall, J.P.	Easterton, Parkstone, R.S.O., Dorset.

* At this meeting Morton Stuart, Esq., was elected a Vice-President of the Club.



Anniversary Address of the President.

(READ BEFORE THE MEMBERS OF THE FIELD CLUB
DECEMBER 9TH, 1891)



MY first duty is a melancholy one—namely, to notice the death of Colonel Hambro, which occurred so suddenly in March last, causing deep and heart-felt sorrow throughout the county. He was born in Copenhagen in 1835. He was educated at Trinity College, Cambridge, and was called to the Bar in 1860 at the Inner Temple. He represented Weymouth in Parliament from 1868 to 1874, and the Southern Division of the County from 1886 until the time of his death. In 1877 he succeeded to the Milton Estates, which had been purchased of the late Lord Portarlington by his father. He was an active Magistrate, and proved himself an efficient Chairman of the Committees over which he was appointed. He was elected a County Councillor for the Weymouth Division under the Local Government Act of 1888, the duties of which office he efficiently fulfilled with the same zeal and ability as when acting under the old *régime*.

Mr. Henry Groves, although not a member, was a Dorsetshire man and an eminent botanist, and I cannot refrain from

noticing in regretful terms his removal. His father was Mr. Richard Groves, pharmacist, and his elder brother, Mr. T. B. Groves. He was born at Weymouth in the year 1835. At an early age he showed a taste for scientific studies, and obtained in 1856 a certificate for Botany and *Materia Medica* at the School of the Pharmaceutical Society. Two years after, when only twenty-three years of age, he contributed a paper in the *Phytologist*—"The Flora of Portland." After studying pharmacy five years in London and Brussels, he went in 1863 to Florence, where he married, and spent the rest of his life. Much of his spare time was occupied in travelling far and wide throughout the Peninsula studying its botanical features and collecting. Among his many explorations, the most notable were those of Monte Argentario, the Maremma, the Abruzzi (including Monte Marrone, Monte Majella, &c.), the Appian Alps, Monte Gioja, the Appenines, Otranto, and Gallipoli, in Southern Italy, and Sicily. Many of these expeditions subjected Mr. Groves to considerable dangers and privations, from bandits, and from scarcity of food, which was difficult to obtain. At the time of his death Mr. Groves had in his possession a magnificent herbarium, comprising about 50,000 plants, the majority of his own collecting, and this treasure he demised to the Central Botanical Society of Tuscany. Through his industry several new plants have been added to the Flora of the Italian peninsula. He constantly contributed to the pages of Italian and English botanical serials. One of the last, probably, was that of the "Flora Della Costa Meridionale della Terra D'Otranto" published in the *Nuovo Giornale Botanico Italiano*, vol. xix., pp. 210, 1887, an epitome of which was published in the twenty-first volume of the Linnaean Society's Journal of Botany. Mr. Groves added from the littoral of Otranto a plant new to science, *Anthemis hydruntina*, and four varieties of other known plants, *Centaurea deusta*, *Ten.*, var. *tenacissima*, *Centaurea deusta*, *Ten.*, var. *nobilis*, *Statice cancellata*, *Bernh.*, var. *Japygica*, and *Ornithogalum refractum*, *W.K.*, var. *Adalgisæ*. Mr. Groves was a genial companion and a kind friend. I am glad of this oppor-

tunity of gratefully acknowledging the many valuable additions my Herbarium has received through his munificent liberality, which many other botanists have equally shared with me. An attack of paralysis, of which he had a premonitory warning about two years before, terminated his valuable life on the 1st day of March last.

Little is known of nations whose very names are lost in the oblivion of the past, and which have left no history, and passed through the stages of conquest and decay. The histories of some, however, crop up occasionally from unexpected sources, showing their extent and importance in very remote times. Of these the Minæan kingdom is one. A Minæan language has been long known in connection with the ritual of the Sabean worship, but of a Minæan kingdom there had been no record before the discovery of some rock inscriptions in Arabia, which tell us of a country supposed to be little more than a desert of sand and rock, which, now inhabited by wandering nomads, and without a history up to the time of Mahomet, had been a centre of civilisation in remote ages, a land of trade and commerce, and which once exercised an important influence in the civilised parts of the ancient East, possessing an alphabetical system of writing, earlier, perhaps, than that which is known as the Phœnician alphabet. The Minæan kingdom reached from the south of Nubia to the frontiers of Egypt and Palestine. It preceded the kingdom of Sheba, which geographically covered the same area, and was flourishing when Tiglath-pileser ruled in Assyria in the eighth century B.C. The Queen of Sheba's visit to Solomon carries it back to a still earlier date. The Sabæan kingdom superseded the Minæan kingdom ten centuries before the Christian era. We are now acquainted with the names of 33 Minæan kings, three of whom have been found by Professor Max Müller on inscriptions in the neighbourhood of Terma, the "Tema" of the Old Testament, in North Arabia. An interesting inscription has been found engraved on a rock in Southern Arabia in connection with a war between the rulers of the South and the rulers of the land of Madai and Egypt in the north. The authors of the inscription state that they were under the Minæan kingdom, and

that they were governors of Tsar and Ashur and the further banks of the river. In Ashur we have the Ashurim of the Bible, who are called the sons of Asshurim, Gen. xxv. 3, whilst Tsar was a fortress mentioned in the Egyptian monuments as guarding the approach to Egypt, what would be now the Arabian side of the Suez Canal. Mahdi is identified by Dr. Glazer to be Mizzah, the grandson of Esau (Gen. xxxvi. 17). The reference proves that the power of the Minæan kingdom was acknowledged as far as the borders of Egypt at an age supposed by Professor Hommel to be the age of the Hyksos, or Shepherd kings. Its authority was also recognised in Edom, as is shown by an inscription in which mention is made of Gaza. If these records reach back to the age now claimed for them they must be far the oldest known inscriptions in Phœnician letters, and instead of seeking in Phœnicia for the primitive home of Alphabets we shall have to look for it in Arabia.

The labours of a few men in recent years have drawn out much light from the records of Egypt and Assyria, and we find the nineteenth century before Christ yielding up its secrets to the nineteenth century of our era. From these records the Hittites are recognised among the existing nations. They were a powerful and warlike nation, whose centre lay in the north of Syria, between the Orontes and the Euphrates, but whose outposts, about 1200 B.C., extended as far west as the Ægean Sea. In the Egyptian inscriptions they are called the Khita, or Kheta; in the Assyrian, the Khatti; in the Hebrew Scriptures, the Khittim. Under the name of Khatti we meet with the Hittites in the astronomical work in seventy tablets drawn up by Sargon of Agané about 1700 B.C., in which the Hittites are already spoken of as formidable rivals of the Babylonians, between whom hostilities were continually arising. We shall see as we go on that the Khita played an important part in the history of Egypt, and that the age of Hittite supremacy belongs to a date earlier than the monarchy of Israel. There were Hittites round Hebron, to whom the origin of Jerusalem was partly due. The Hittites in Palestine were confined to a small district in the mountains of Judah, but were

stronger in the north. No one suspected before that a great empire had once existed in Western Asia, and upon equal terms with Assyria and Egypt; much less was it supposed that this enterprising nation extended its art and its religion far west, and that the early civilisation of Greece and Europe was as much indebted to them as it was to the Phœnicians. Dr. Schliemann's excavations at Mycenē brought to light the fact that the early culture of Greece was influenced by that which originated from Asia Minor. A continuous chain of monuments from Lydia in the west to Cappadocia in the east have been found, of which the best known are the rock sculptures of Boghaj, Keul, and Eyuk on the western side of the Halys, and two figures in relief in the pass of Karabel, near Sardes, which Herodotus had seen, and supposed to be memorials of the Egyptian conqueror Sesostris. Professor Sayce examined the Karabel figures and inscription, and came to the conclusion that the characters were Hittite, and corresponded with those found at Hamah, the site of the ancient Hamath. We have been led by slow degrees to a clearer view of the Hittite Empire, and the important part once played by the Hittites in the history of the civilised world.

Egyptian inscriptions show that long before the days of the Exodus the Egyptian kings had been in conflict with this powerful and aggressive nation. Their chief seats were at Kadesh on the Orontes, and Carchemish on the Euphrates. The Egyptian and Chaldee monuments are about 200 years anterior to the oldest known Hittite record, which belongs to the ninth century B.C. The discovery of these records has stimulated the study of hieroglyphic, cuneiform, and rock inscriptions; the results of which have been most important in furtherance of the knowledge of the history of this people, and their relations with the rest of the civilised world. For instance, the rock records of Hamath, north of Kadesh and south of Aleppo, which had been seen by Buckhardt in 1812, were only rediscovered in 1870 by the Rev. S. Jessop of the Armenian Syrian Mission and by Consul General Johnson of the United States, and subsequently by the late Mr. Tyrrwhitt,

who was sent expressly to Hamath by the Palestine Exploration Society to obtain genuine copies of the inscriptions. Mr. Rylands, Secretary of the Society of Biblical Archaeology, compiled from the labours of these pioneers a full account of the Hamath inscription, which was published in 1882. The Rev. Dr. Wright, Captain Condor, and Mr. Campbell, Professor in the Presbyterian College, Montreal, have published everything connected with the inscriptions, and fragments, some of which were found among the ruins of ancient Carchemish, now called Jerabis; the originals are now in the British Museum, others have been found in Asia Minor, Syria, and the valley of the Euphrates, Lycaonia, Lystra, and Derbe, cities mentioned in the Acts of the Apostles. The most recent discovery is at Merah, on the east side of Cappadocia and Cilicia, where two stone lions flank the gateway, the front, and one side of each, are covered with hieroglyphics, in a good state of preservation. It is the oldest Hittite document yet discovered. Its preservation from the destroying hands of the Assyrian conquerors might have been due to the fact that it does not contain any statement derogatory to them, and that it recognises their Sovereignty, as do the monuments of Hamath and Carchemish. The "Nazir Lord of Assyria" is the Assyrian Assurnazirpal, the father of Shalmanezer II. The author of the inscription was one Kapini, who was apparently King of Ras, the Rosh of the Bible. Some years ago a convex silver plate, probably the top of a staff or dagger, was offered for sale to the British Museum; in the centre was the effigy of a standing warrior, surrounded by an inner circle of hieroglyphics, with an outer circle round the rim of the boss, engraved with a cuneiform inscription. From the posture and form of the human figures are seen evidences of recently discovered Hittite art. Professor Sayce has translated this bilingual inscription by the aid of the cuneiform legend. It reads thus "Tarrik-Timme, king of the country of Erme." The forms of the characters seem to refer to the age of the Sargon, not of Agané, who lived about 1,700 to 1,730, B.C. It was in Sargon's time (about 720, B.C.) the deportation of the ten tribes of

Israel happened, and he it was who overthrew the Hittite empire at Carchemish, and scattered its warlike tribes, many taking refuge in Asia Minor, carrying with them the latest forms of their writing. The last record I shall mention will be that of the stone bowl from Babylon ; the inscription on which reads, " Tarako, king of the Moschi, dwelling in the city Sarara, brings to Essarhaddon, the successor of the mighty king of Assyria Sennacherib, the stone bowl, containing just manehs of really pure silver, to hold Sennacherib in memory." With the exception of the boss "*Tarrik-timme*," this stone bowl is the most recent record of the Hittites. It is in hieroglyphic character (about 680, B.C.) In a memoir on the Astronomy and Astrology of the Babylonians, Professor Sayee translates a document belonging to the time of Sargon of Agané (about 1,700 to 1,730, B.C.), in which the following passage appears :—"On the twentieth day an eclipse happens, the king of the Hittites (Khati) lives, and on the throne seizes." Now Sargon was a Hittite on his father's side, but as a deposed prince. He made his way to the throne without parental aid, and even disowned the ancestral name and language.

A broken fragment of the annals of Nebuchadnezzar has shed some light on the identification of Phut. We there read that the Babylonian king, in the 37th year of his reign, marched against Egypt, and defeated the army of Amasis, the Egyptian monarch, as well as the soldiers of the city of Phut-Yavan or Phut of the Ionians. It is known that Amasis had granted special privileges to the Greeks, had surrounded himself with a Greek body-guard, and had removed the camp of the Greek mercenaries from the neighbourhood of Pelusium to that of Memphis. In the city of Phut-Yavan we must see some city to which the Greek mercenaries were considered in a special manner to belong. Phut, therefore, can no longer be said to remain without a record except in the Hebrew scriptures, and we can understand why Phut is associated with Lud by the prophets, when they threaten Egypt with its coming overthrow (Jeremiah xlvi, 9). Like the Lydians the men of Phut offered their

services to others besides the Egyptians, and we find them with the Lydians serving in the ranks of the armies of Tyre (Ezekiel xxvii., 10).

The principal races, whose genealogical history is set forth in the first book of Chronicles, from the second to the eighth chapter, omitting the third and the sixth, are three, the Horites, the Jerahmeelites, and the Hittites. The Horites were a sub-Semitic people of Canaan, allied to, and probably including the Phœnicians. The Jerahmeelites were an Aryan or Japhetic race. The Hittites were in point of numbers, at least, the greatest nation of antiquity, and the pioneers of culture. In some cases the genealogies are continuous, in others they have been broken up. The work of re-uniting them is sometimes easy, as when the mention of Mareshah in chap. iv., v. 21 refers us to chap. ii., v. 42, where his descendants are given. The family of Shobal, the Horite, also is traced in chap. i., v. 40, chap. ii., v. 50, and chap. iv., v. 2. But the Hittite line, which begins in chap. iv., v. 5, has its continuity broken by the mention at verse 8 of the Ammonite line of Coz, for the purpose of introducing Jabez, whose mother Zobebah was of Ammonite descent, while his here unnamed father was a Hittite. As Jabez was the glory of the Hittite tribes, this pre-eminence in the genealogy was doubtless the work of the Kenite scribe. It cannot be said that in every case this chapter gives a correct transcript of Hittite names, for Beth Zur,* Beth Rapha, Ben Hannan,* and Ben Zobeth,* are at least in their first elements Hebrew translations. It contains, however, the most ancient, and the most truthful (bald as it is), history of the Hittite people which the world is likely ever to possess. Without this document the Hittite inscriptions would not now have been deciphered, and the history of the Hittites would be an impossibility.

As early as the time of the Patriarch Jacob, the Hittites were in possession of the kingdom of Chaldæa and of Edom. Although the monuments of Chaldæa and Egypt are the oldest and best sources

* Descended from Jephunneh, father of Caleb.

of information concerning the Hittite people, we do not as yet possess the key by which they can be read in consecutive order, for the inscriptions are on scattered tablets, which cannot always be placed together. Sometimes the date can be settled ; for instance, when the names of Shalmenezer, Tiglath-pileser, and Sargon appear, the Bible decides their epochs and succession. With the exception of Chedorlaomer, the Bible makes no reference to the earlier Egyptian and Assyrian monarchs. The soil of Canaan, however, had seen the Babylonian armies passing through it. Haran was well known to the Chaldaean kings, and Sargon I. of Accad, who had carved his name on the rocks of the Mediterranean coast and crossed over to the island of Cyprus, had made expeditions in the far west. The campaign, therefore, of Chedorlaomer and his allies mentioned in the fourteenth chapter of Genesis was no new thing. The fragments of Manetho's Egyptian history, preserved by Eusebius and other writers of the third century B.C., and of Berosus of the fourth century, are not of much value. The Lion inscription of king Kapini belongs to the ninth century B.C., but the information concerning the Hittite people, given by the Assyrian inscriptions, dates about two centuries before. Besides Kapini's inscription there are others in Asia Minor belonging to the latter part of the eighth century B.C. ; those of Etruria and Spain are probably not older than the third century, A.D.

There is an historico-genealogical record, not of Hittite history alone, but of the whole ruling population of the East, made by Hittite scribes in the eighteenth century B.C., and inserted by the Editor of the Chronicles in the early chapters of the first book, and brought by him or by a subsequent hand into relation with the tribes of Israel. There are many passages in the record where inconsistency with an Israelite connection is so apparent that they would not be allowed in the sacred text had there been the least suspicion of deception or untruthfulness. There is no evidence that the Jews ever made use of this Kenite record for genealogical purposes. It contains many names which are not Israelite ; some of them are purely Egyptian, others are Kenite names, such as Othniel, Caleb,

and Jephunneh. In I. Chronicles iv., 22, dominion in Moab is expressly assigned to some bearing Kenite names. The last verse of the second chapter incidentally gives the authors of the Hittite record. It says "The families of the scribes which dwelt at Jabez; the Tirathites, the Shimeathites, and Suchathites. These are the Kenites that came of Hamath, the father of the House of Rechab." In the seventeenth and eighteenth verses of the fourth chapter, it is stated that Mered married Bithiah, a daughter of Pharaoh (Cheops), Ziph of the Bible, and a contemporary of Jacob and Esau. He was a Hittite, and had established himself apparently at Memphis, and compelled his enslaved Mizraite subjects to build the Great Pyramid at the neighbouring Gizeh, also the stone causeway to it, which Herodotus regarded as an equally wonderful achievement. His entrance into Egypt makes the beginning of Hittite sovereignty in that land. The names Jether and Heber, which are associated with Ziph and his son-in-law Mered, whom the Egyptian inscriptions knew as Prince Merhet in the record, appears afterwards among the later Kenites, as well as Jethro, the father-in-law of Moses, and Heber, the husband of Jael. The city with which the Book of Chronicles associates the scribes of the genealogical record is Jabez, the Hebrew form of which is Yabetz; there is no such name in Palestine, but the Egyptian name for Thebes is Apit, which becomes Thebes by the feminine affix of *t*, or *ta*; the Egyptian alphabet does not possess the letter *z*, for which *t* is substituted. We have it in the name of the great Hycsos, or Shepherd King Aahpeti (Jabez), who transferred the University from Memphis to Thebes, where the Tirathites, the Shimeathites, and the Suchathites of Memphis continued to be the masters of inscriptions and historiography. They would be acquainted with the records of the great Hittite Empire, with which the adjoining populations had such close relations. These records began prior to the reign of Cheops, and continued within a hundred years or less of the Exodus. The history of the rebellion of the Hittite tribes against Chedorlaomer after twelve years' subjection, their defeat in the slime pits of the

Vale of Siddim, and their rescue by Abraham, with his three hundred armed servants, prove him to have been a king, at least such as kings went in those days, and perhaps he was not inferior to his confederates Mamre, Eshcoll, and Amer. Years after, and when in the interval Sodom and Gomorrah had sunk beneath the Dead Sea, Abraham solicited of Ephron, ancestor of Caleb, the purchase of a piece of land for the sepulchre of his wife, Sarah. The Empire was then very old, and the monarch on the throne was a Hycos. The most important invasion of the Hittites into Egypt was that of Jahdai, the son of Gazez (I. Chronicles ii, 46, 47), and which proved of great importance to the future history of the country. The petty sovereigns submitted to his rule with the exception of one, who was a woman, Zobebah, the daughter of the Ammonite Coz, and sister of Anub (I. Chronicles iv. 8); Jahdai sought her in marriage, she refused to accept him unless the child born of her should inherit the throne, to this Jahdai agreed, and disinherited the six sons born to him by his other wives. Jahdai died before the child was born. The brief Kenite record states, "That she called his name Jabez, saying because I bare him with sorrow" (I. Chronicles iv., 9). Jabez becomes Aahpeti in the Egyptain language, which cannot more accurately express the word recorded by the Kenite scribe. In Manetho's sixth dynasty he is called Pheops, he must also be the Sesostris of Manetho's twelfth dynasty. His true place is among the Hycos kings. The unanimous testimony of ancient writers is, that Israel entered Egypt in the seventeenth year of this Pharaoh, and that he had been eight years on the throne when Joseph interpreted to him his dream. The most important event in the life of Aahpati was his adoption of the faith of Joseph, as, yet uncorrupted by the superstitions of his age, he perceived that Joseph's God could give wisdom far surpassing that of the priests of Amun, Ra, &c. The Kenite record says: "Jabez was more honourable than his brethren, and he called upon the God of Israel, saying, Oh that Thou wouldest bless me indeed, and enlarge my coast, and that thou wouldest keep me from evil, that it may not grieve me! And

God granted him that which he requested" (I. Chronicles iv., 10). The following extract from the first Sallier Papyrus, which is a mutilated fragment, tells the same story from a foreign inimical standpoint, "It came to pass that the land of Egypt was held by the Aadrous. Then king Sekenen Ra was a ruler in the southern region, the Aadrous in the district of Amu, their chief king Apapi in the city of Avaris. The whole land did homage to him, paying tribute. King Apapi took to himself Suttech for lord, refusing to serve any other god in the whole land. King Apapi appointed festivals, days for making sacrifice to Sutech, with all rites that are performed in the temple of Ra Harmachis. He built for him a temple of goodly and enduring workmanship." The remainder of the fragment relates to message sent by Apapi to Seken-en-Ra in the south and of the dismay of that king and all his court when they heard it. The import of the message is doubtful. It is evident, however, that Jabez overthrew idolatry and established throughout his dominion the worship of one God; this God he called Sutech, which is not a Hittite word, but a form of Shaddai, the Almighty, the name by which God revealed Himself to Abraham, and to Jacob, and in whose name Jacob was blessed by his father Isaac. Manetho gives Amenemes III. a reign of only eight years, which is significant as it was in the eighth year of his reign, Jabez renounced the worship of idols, and called Shaddai the God of Israel. It was Aahpeti, no doubt, who removed the scribes from Memphis to his new capital, Thebes, where they continued to be masters of inscriptions, writers of papyrian despatches, and historiographers royal, and would be in possession of all the archives of an empire which stood in intimate relation with the neighbouring people and nations. They must have had a perfect knowledge of at least two languages, the Egyptian and the Hittite.

In Egypt the Kenites adopted the Hebrew faith. It is to them, therefore, and not to any Israelitish writer, that we have the remarkable statement that Jabez called upon the God of Israel and the prayer which accompanies it. This faith they still

possessed when dwelling in Arabia Petræa, for Jethro, the priest of Midian, was recognised by Moses as a worshipper of the true God.

The Kenite record gives the names of all the Egyptian kings down to the time of Exodus. By a comparison of other documents with the Hittite, Mezahab, the great grandson of Jabez or Aahpeti was the last of the Shepherd or Hyesos line, and from the day of his death began the reign of the Pharaohs who knew not Joseph. The Kenite record places the history of Egypt in harmony with that of the Bible by bringing the favourable Shepherd line down to within two generations of the Exodus of Israel. These foreign invaders had held the Egyptians in bondage 511 years. Mezahab reigned on the throne of Thebes as Amenemes IV. He was an idolater, and in order to conciliate the native Egyptians he added to his name that of the ancestral god Horus, and called himself Hormanub; but this did not satisfy the three ruling petty sovereigns of Nubia, Syene, and Abydos, who had resolved to take Thebes from the descendant of Jabez. Mezahab was successful over his three rivals, but was unable to retain the integrity of the Empire. Thothmes II., the Sovereign of Nubia (Amenemes IV. of Thebes) made peace with Mezahab and married his daughter Matred, who became the mother of Beriah (Rameses II.), I. Chron. vii. 23, and of a daughter Mehetabel. Hadrai, an Hittite, the son of Saul of Abydos, married Mehetabel, who was considerably older than her brother Beriah. Hadrai (who styled himself Thothmes IV.) and his royal consort Mehetabel took Thebes and strengthened his brother-in-law's power. Here they erected two obelisks in memory of her father Thothmes, one of which still stands amid the ruins of Karnak; she and her brother Beriah, who was crowned as Rameses II. and as Thothmes III., representative and heir of the ancient Egyptian line. The name Rameses, although not a personal name, and thus valueless in the comparative study of tradition, is useful in indicating the point at which the old line of Ra regained Egyptian sovereignty, and confirms the Bible story of Egyptian rule, and of Israelite oppression. The name is not mentioned in

the Kenite list. Mehetabel kept the Empire 15 years for her brother, pushing the Egyptian border in the regions overrun by the Hittites. In the north her husband Hadrai left his name on the Sphynx, the Hittite monument at Gizeh. He was the hero of the eighteenth dynasty, and fought his battles from the Euphrates in the north, to Ethiopia in the south, while his wife Mehetabel, as regent for Rameses II., sat upon the Memphite throne. Rameses did not like his sister's tutelage, and would have cast it off had he not feared his brother-in-law, Hadrai, who was the stronger of the two. At the birth of Moses he seems to have had full authority, for from him originated the edict that the infant sons of the Hebrews were to be put to death. Prior to this the captive dwellers of Goshen were condemned to hard labour as builders of the treasure cities of Pithom and Rameses. They are represented at this task on the monuments of Thothmes II., father of Rameses II. His son-in-law Hadrai was then in the height of his career, and his daughter Mehetabel regent, when the infant Moses was consigned to the waters of the Nile in the ark of bulrushes. Her motherly heart revolted against the cruel edict, and she not only saved but adopted the infant at the time her husband and her son Shimon were then at the wars. It is for this reason probably her name is the only one given of a consort to kings who reigned in Edom (Gen. xxxvi., 39); no other in Egypt except Mehetabel could have dared to save the child. At the death of Hadrai his son Shimon, under the name of Amonoph III., succeeded to the lower kingdom of Ethiopia. He must have been the protector of Moses. The monuments show that Mehetabel's regency did not extend to the twentieth year of her brother's reign, so that she must have bequeathed her adopted son to the care of Shimon. There is no proof that he shared the faith of Moses, who made a princely convert of the royal line of the Sekenens, the Kenezite Jephunneh, the father of Caleb, who became incorporated with the tribe of Judah in the Kenite record. Rabbinical writers represent Moses as a dweller in Ethiopia. The language of St. Stephen is conformable to this tradition, for it says that "He was mighty in

words and deeds, and when he was full forty years old it came into his heart to visit his brethren the children of Israel" (Acts vii., 22, 23). He must have accompanied Shimon to the court of his wife, the Elephantine Queen, Taia, and followed him to many fields of conquest. Previous to Shimon's death Moses must have refused to be called any longer the son of Pharaoh's daughter, and passing from the safety of Upper Egypt to the Memphis region, over which at that time Rameses II. reigned, he visited his enslaved brethren. It might have been his intention to lead them forth from slavery, but their objection to his interference showed to him the fruitlessness of his object. Passing then over to Arabia Petræa, where Shimon's subjects dwelt, he was safe from the pursuit of Pharaoh, and at freedom from the irksomeness of Court life at Thebes. At Tel-el-mankula, near Tel-el-keber, the scene of the late Egyptian war, are some mounds with inscriptions on them, which show they not only represent an ancient city, whose religious name was Pithom, and its civil name Succoth, but that also the founder of the city was Rameses II. In Greek times the city was called Hieropolis, or Ero, from the Egyptian word *ara*, a stone-house, thus reminding us that Pithom and Rameses, which the Israelites built for the Pharaohs, were "treasure-cities" (Exod. i., 14). Their treasure chambers have been discovered, and show how very strongly they were constructed, divided by brick partitions from eight to ten feet thick, the bricks sun-baked, some made with, and some without, straw. "I will not give you straw" was Pharaoh's message to the Children of Israel.

The most interesting record which has come down to us is an incident in the reign of Rameses II.; it gives the account of the travels of a Mohar, or military officer, of his travels through Palestine, written by himself at a time when the country was nominally tributary to Egypt. The Mohar made his tour during the latter part of the reign of Rameses II., so that the account he has given of Canaan shows what it was like before the conquest by Joshua. He journied as far as Aleppo in a chariot, which is more than a traveller in Palestine

can now do. He describes how his clothes were stolen one night, and how his groom or mulateer joined the robbers. Among the places he visited were the Phœnician cities of Gabal (famous for the shrine of Ashteroth), Beyrouth, Sarepta, Sidon, and Tyre, which city he says was built on an island in the sea, drinking-water being conveyed to it in boats. He visited also the Hittite cities Hamath, Tunnah, Hazor, and Tabor; he not only mentions the ford of Jordan, near the Beth Shean, but also a passage in front of the city. Joppa was then surrounded with gardens of date-palms, which have been now supplanted by orange groves. In one place the Mohar had to drive along the edge of a precipice, at a height of 2,000 cubits, full of rocks and boulders, "while at another time his groom broke the chariot by driving over a slippery path, which necessitated its repair by the iron workers at the next smithy."

Rameses II. encountered the Hittites at Megiddo, in Palestine. Details of the march and battles are given. The king brought his army out of Egypt to meet the confederacy, under a command of the king of the Hittites. In a speech he made at Iham, where he held a council of war, which is preserved in the temple of Karnach, he is reported to have said "That Hittite, king of Kadesh (king of the Hittites), has arrived. He has entered into Megiddo. He has assembled with him the kings of the tribes over against the waters of Egypt as far as the land of Nannaim (Mesopotamia)." In his subsequent campaigns, Rameses II. encountered the Hittites again at Kadesh on the Orontes, between the river Euphrates and the Great Sea, and followed them up to the centre of their power. This might be the proper place to mention that Mr. R. S. Poole, in his *Horæ Egypticæ*, was the first to indicate that most of the early dynasties of Manetho are not successive, but contemporaneous, so that sometimes no fewer than five sovereigns were on petty thrones at the same time. Professor Rawlinson shows that when the Shepherd kings occupied Egypt there were four other dynasties in the land, and some under different names are identified to be the same person. No record speaks of Thebes as being in the

hands of native Pharaohs in the time of Jabez, who was lord of the whole land. Thothmes II., who married his great granddaughter Matred, assumed the title of Rameses.

Seti was the successor of Rameses II., the only Pharaoh of that name ; he was the husband of Rameses' daughter, Sera or Tzira. He styled himself Rameses Hekan ; he was a Hittite, and one of the greatest and most warlike of Egyptian monarchs, and brought all Egypt for the second time in history under one sceptre. He carried out that great engineering feat which has been lately reacheived in the construction of the Suez Canal. No monument of this Pharaoh has been met with later than the twelfth year of his reign. About this period Moses stood before him and demanded the freedom of the Israelites. He perished with the Egyptian army in the Red Sea. Soon after leaving Egypt, Moses sent spies into Canaan whose report is very briefly given in the Book of Numbers. In the south they found the Amalekites separated from the rest of their Hittite brethren. In Hebron they found Hittites in the three sons of Anak. During their wanderings in the wilderness the Canaanites whom the spies saw dwelling by the sea, and by the coast of Jordan, were Sidonians ; in the mountains were the Hittites, and the Jebusites and the Amorites. The spies appear to have begun at the north with Sidon and the Phœnicians, next to whom came the Hittites, extending from Rehob to the mountains of Bethel, the Jebusites in Jerusalem and Bezek, and, finally, the Amorites in the south country. In their wanderings in the wilderness Israel's only enemies were the Amalekites of the desert, and a body of Canaanites, whose king was Arad. When the Israelites came to the Amorite border no attempt seems to have been made to combine the forces of the trans-Jordanic tribes against them, which is probably an indication that they were mutually hostile to each other. Joshua conquered them in detail, first reducing the Amorite kingdom of Sihon, which lay between Moab and Bashan, and by military strategy he hindered combinations from that quarter. Og, the king of Bashan, was then defeated. Joshua's first conquest on

the west side of Jordan was Jericho and Ai. Gibeon falling away from the Amorite confederacy greatly weakened the forces, and the five kings, of whom Adoni-zedek was the leader, were totally routed by Joshua, who came unexpectedly by a famous night march. Nevertheless the Hittites declared war under Jabin, the king of Hazor. "Hazor beforetime was the head of those kingdoms" (Josh. xi., 10). The stand against the intrusion of Israel was not confined to the Hittites, but all the tribes of Canaan were called upon to help. Many a time the Hittites had assembled to protect their homes against the Egyptians, Amorites, and hostile tribes of their own race, and had successfully rolled back the tide of war; but they had never yet encountered an army strong in the faith of an over-ruling Providence, and imbued with religious enthusiasm, such as that which they then experienced. Canaan was then a polluted land, every corner of which had echoed with the cries of the victims whom on its thousands altars were slain and offered with revolting cruelty to the spirits of those who had once been the vilest of men. Those who accuse Israel of murder are ignorant of the records of the times immediately preceding Joshua's march from Beersheba to Dan. Jabin was overthrown, and the confederate kings slain. The Hittite host fled into the north country; and were pursued by Israel and overwhelmed beyond Sidon. Henceforth the Hittites as a people have no Palestinian record. The Amorites had doubtless filled up the measure of their iniquity long before, and now it was the Hittites' turn. From the time of Jabin's defeat the Hittites commenced a new life in Syria, and made Hamath their religious centre instead of Hazor.

A century after Jabin's defeat by Joshua, a second Jabin reigned in the new Hazor, and was, like his predecessor, the head of the Hittite confederacy of the day. Jabin's force was formidable on account of his nine hundred iron-chariots, but Jabin was outmanœuvred by Barak, and drawn into the valley between Taanach and Megiddo, and on Barak's onslaught the chariots became entangled, resulting in the destruction of the Hittite army. This was

the commencement of a war which resulted in the Hittite yoke being broken by Israel and the supremacy of Jabin brought to an end. After this, and during the predominancy of the Assyrian and the Lydian powers in Asia Minor, many of the Hittites passed into Europe, and as fugitives became the pioneers of the race, their love of liberty leading them to seek new and unfrequented regions. This western dispersion has been traced by Mr. Campbell, who thinks that the population of Liguria, apart from Genoa, to be almost entirely Hittite.

After the capture of Samaria by Sargon, Hamath shared the same fate, as well as Carchemish; the inhabitants of both he transported to Assyria. The fate of Commagene followed soon after. In the year 716 the Hittite confederacy came to an end; but the Hittites were still strong in Armenia and Asia Minor. Nebuchadnezzar having gained an alliance of the Hittites of the north with those of the south who acknowledged his sway aided him successfully in crushing Assyria 660 B.C. During the time of Cyrus many Hittite tribes migrated eastward to escape from Persian exactions. Some of them got as far as the upper waters of the Ganges, others passed into Europe when Asia Minor was divided between the Assyrians and the Lydians; these Hittite fugitives everywhere became the world's pioneers, their love of liberty leading them to seek new and unfrequented regions. The Parthians were the most numerous and warlike of the Hittite tribes of Persia. Hittite kings sat upon the Parthian throne, and ruled from Asia Minor to India. In Spain a few small inscriptions called Celt-Iberian have been found belonging to the period of the Roman occupation under Scipio, and a large number of coins inscribed with Celt-Iberian characters. Many similar have been found in the south of France. The Celt-Iberian characters differ little from the Etruscan, and are very like those on Parthian coins; their age cannot be determined with any degree of certainty, but some of them appear to be previous to the Christian era. Of European Hittites retaining their ancient language the Basques form one division, and the Ugrians the other, the purely Hittite inscriptions

are most easily rendered through the Basque. All other European Hittites have been linguistically submerged.

The Hittite, or, as it may be termed, Etruscan, speech long survived in Italy. Many Hittite states were established in Southern Gaul, from the Maritime Alps to the Atlantic coast. In Spain there were several confederations of Hittite and Celto-Hittite cities, for the conquest of which the Carthaginians and Romans contended from the year 235 B.C. The name given to the Spanish Hittites is Iberians, and in other parts of Europe they were known as Rigantes. The British Islands have been largely occupied by Hittites; that the Picts were Iberians has long been suspected, and the same origin has been assigned to the Silures of South Wales. Of the European Hittites who retained their ancient speech the Basque form one division, and the Ugrians the other. The Basque language has aided materially the interpretation of Hittite inscriptions. Although most of the Hittites have been linguistically submerged, the Basque language is fairly preserved in the Caucasus.

Far back in the time of the old Median Empire circumstances occurred which led to Hittite migrations from the Persian Empire into India, although Cushite and Shemite migrations took place there long before; but an historic kingdom only began when the Hittites and their Japhetic companions made it their home. Monuments inscribed with strange characters exist showing a relationship to those of Parthia, Asia Minor, and Etruria. The work of deciphering these inscriptions has only just begun.

The kings who have left their inscriptions in India frequently called themselves kings of the Kita. The oldest inscription which has been deciphered is 403 B.C. It simply states that Kita chose Nebutaki for their king; twenty years later, Tsumaki of the Sakis proclaims his accession to the throne; twenty years after that, Kabutaku declares that in his person a rival line was superseded by that of the Sakis. The inscriptions suffice to indicate that Hittite rule began in India in the seventh century B.C., and down to the Christian era. When the monarchy was still Hittite,

Alexander the Great, who did not extend his conquests beyond the Punjaub, heard of powerful monarchs, one of whom ruled over a great kingdom on the Ganges, and could send into the field two thousand war chariots, and four thousand armed elephants. That the lazy Brahmins were in India, in the time of Alexander and Seleucus is noticed by Megasthenes ; he tells us that they exercised priestly functions and walked about in nude dignity, free from all obligations and living on the fat of the land. There are six other Hittite kingdoms mentioned in the inscriptions. A Hittite tribe, Rabakita, were driven out of India about 63 B.C., taking refuge in Thibet and Tartary. In the beginning of the fifth century they reached Siberia, at the head waters of the Yenesei, where a miserable remnant of the race still dwell.

The region about the Yenesei is one of mounds like European Scythia. The Khitan dead were buried there, and from their tombs objects of art attest an ancient and peculiar civilisation. On the rocks by the riverside are inscriptions, the authors of which were the Raba Kita. The Northern Hittites migrated to America at the beginning of the sixth century ; there seems to be evidence that the southern or Oceanic Hittites came to Guatamala and Yucatan at an earlier period. The passage from Kamtschatka to America was by the Aleutian chain, ending at Alaska. The great cause of emigration was the presence of hostile tribes, which began with the expulsion of anti-Buddhist tribes from India before the Christian era, but of which the tide did not reach the northern coasts until the beginning of the sixth century. Stories of revolt occur frequently in the ancient annals of Japan, and are generally accompanied by stories of expatriation, which could only take place by sea. The wearied Hittite would seek a far-off home where he might dwell at liberty and in peace. At a recent meeting of the Academy of Sciences, Paris, M. Emile Blanchard read a paper on the existence of a terrestrial connection between Europe and America during the present geological age. He pointed out that a line from the north of Scotland through the Orkneys, the Faroe Islands, Iceland, Greenland, and Labrador by way of Davis Straits,

passes from one island to another across comparatively shallow seas. Several plants and animals are common to both hemispheres. The probability of a belt of land connecting Europe with Labrador opens up an interesting question of the migration of man from Europe into America, and that of the Hittites might have been one of them.

We see from what has been said that the Hittites appeared as a very powerful people in very early times, and that they were a real power, and at one time had contested the empire of Western Asia with the Egyptians. The age of Hittite supremacy belongs to an earlier date than the conquest of Canaan by the Children of Israel. Before that period the Hittites are mentioned who lived in the extreme south of Palestine. Abraham bought the cave of Macpelah at Hebron, and Esau married Judith, daughter of Beeri, a Hittite, and a daughter also of Elon, a Hittite. In later times Uriah the Hittite was one of the chief officers of David. The inscriptions of Egypt and Assyria show that they once played a leading and important part in the history of the civilized East. On the Egyptian monuments they are called Kheta, on those of Assyria Khatta, both words being equivalents of the Hebrew Kheth and Khitti. A discovery has recently been made which throws a light upon the history of the East in the century before the Exodus. A large collection of clay-tablets has been found on the eastern bank of the Nile similar to those from the mounds of Nineveh and Babylonia. We learn from them that the Hittites were already pressing southward and causing alarm to the Egyptians. One of the tablets is a dispatch from Northern Syria praying the Egyptian king to send assistance as soon as possible. The Egyptian generals found themselves no match for the Hittite armies. Rameses I. was compelled to conclude a treaty with the Hittite king, and thus to recognise that the Hittite power was on an equality with that of Egypt.

It will, I think, be conceded from what has been already said that the accuracy of the Bible has been remarkably corroborated by independent, and in some cases inimical, testimony such as that of Egyptian, Assyrian, and Hittite. I agree with Mr. Gladstone that

of "religion and of science we may boldly say as of man and wife, what God hath joined together, let no man put asunder;" and it is not claiming more than the facts warrant us to say, that in respect of every science touched upon in Scriptures whether astronomy, geology, botany, ethnology, archaeology, or philology, the latest researches and discoveries have in every instance, instead of invalidating the Scriptures, gone to confirm them, and often in a most remarkable manner. They corroborate the names of nations and peoples recorded on the inscriptions, and if to be trusted in this respect, we may claim equal trust in all others.

While Professor Sayce, Mr. Wright, Mr. Campbell, and others are mastering the history of ancient nations from papyrus, clay, and rock-inscribed records, unknown in many cases, except from the pages of the Bible, General Pitt Rivers is unravelling the unwritten history of the former inhabitants of this and neighbouring counties by a series of scientific and carefully arranged excavations. He has privately published in three thick illustrated volumes as well as in various memoirs the results of his work. The account of his examination of Bokerly Dyke and of Woodyates, which occupies the greater part of the third volume, incontestably shows that here is the site of Vindogladia, a subject of contention among antiquarians. Its stated distance from Old Sarum in the Iter of Antoninus exactly corresponds with the measured distance of Bokerly from that place, and being on the Roman road, and in the same direction, Vindogladia and Bokerly must be one and the same place. The approximate dates of the alterations and renovations of Bokerly (for there have been more than one) are ascertained to have been both previous and subsequent to the Roman period. General Pitt Rivers has also had Wansdyke under examination; the results of which are also described in the third volume.

The late Mr. Charles Warne discovered a Roman kiln at Bagber, in the parish of Milton Abbas, in which pottery of various textures and colours abundant, chiefly of a close-grained brown hue, which from its resemblance to the pottery found at Woodcuts and Rotherly, General Pitt Rivers concluded that the Bagber kiln

supplied these Dorset villages with their domestic ware, and asked me to ascertain the site of the kiln, and to go on with the unfinished work of Mr. Warne. This I have done, and have been able to make some interesting discoveries; General Pitt Rivers considers the pottery to be identical, both in character and in the form and patterns of the vessels and utensils, some of which have eyelet-holes for suspension, similar to those now in use by the labourers. Some are furnished with a rim, intended probably to receive a cover.

I have completed the examination of the Dewlish Elephant Bed, and have traced it from end to end. It extends over the brow of the escarpment which flanks the eastern side of the valley, filling in a deep fissure in the chalk, over which the Pliocene stream flowed, and of which no other trace remains. The deposit shows great alternations in the force and strength of the stream, being sometimes powerful enough to carry down the carcasses of huge elephants and at other times gentle enough to convey the lightest materials. It is permeated throughout by impalpable quartz-sand, originating probably from extensive sand-dunes. The animal remains lay at the upper part of the deposit, together with large and small flints, some of which are highly polished. Although the deposit yielded only the larger bones of elephants and none of the smaller, nor indeed those of any other animal, it must not be inferred that these only were borne into the fissure. The access of rain-water to the bones, all of which lay near the surface, at the top of the deposit, would dissolve the less massive bones, and obliterate all traces of them; this, as well as the absence of plants, is much to be regretted. The discovery of the Pliocene Dewlish bed has attracted the notice of British geologists. Professor Prestwich, in a recent paper read before the Geological Society on the "Westleton Beds" and Mr. Clement Reid on the "Pliocene Deposits of Great Britain," 1890, bring it prominently forward. The *Elephas meridionalis* has been found in the Pliocene Cromer Forest Bed, in the Upper Pliocene of the Val d'Arno, and of St. Prest, near Chartres. The mammalian remains of the Val d'Arno, like those of the Forest Bed, contain *rhinoceros etruscus*, and *hippopotamus*

major ; two species of deer and a horse have been found in both. Other species, such as the tapir and mastodon point to a probably earlier date or to a warmer climate. The difference of latitude may account for its more southern character, as well as for the presence of two species of apes, which do not occur in the Forest Bed. As a number of free-roaming animals are common to England and France, the freshwater Pliocene period was probably a continental one. I had the pleasure of visiting several Pliocene beds on the Riviera last spring, belonging to its middle and lower divisions, all of which are marine. The Pliocene Italian beds expand into a wide thick sheet, between the Apennines and the sea, east of Leghorn. Several isolated patches occur westward on the coast-line as far west as from Nice to Ventimiglia, the Italian and French frontier ; they are accompanied with thick beds of conglomerates, which form a marked feature on the coast.

Hitherto the conflict between man and the ice has ended in the defeat of the former, but another effort is now contemplated by means of a systematic and well-organised expedition under the direction of Dr. Nansen, of whose success in crossing Greenland with a small party of six I gave an account in my last anniversary address. The failure of the Jeanette expedition (1879-1880), accompanied by the loss of the vessel, seemed to be an extinguisher of all attempts to reach the North Pole by Behring Straits. The results, however, have turned out to be much more favourable than could have been expected, when it is taken into consideration that the surviving crew did not reach Siberia across the ice without great difficulty and danger. Three years after the wreck of the vessel several articles which had belonged to her were found on the shore of Julianshaäb, in Greenland, whither they had been iceborne from the opposite side of the Polar Sea. Curiosity was aroused as to how the journey across the Arctic Sea from Behring Straits had been accomplished, and what unknown current had conveyed them. They could not have passed through Smith Sound, as the only current which reaches Julianshaäb comes eastward by Cape Farewell. It seems highly probable that a

comparatively short and direct route exists across the Arctic Sea by the way of the North Pole. Increased significance to the discovery of the Jeanette relics in 1884 is afforded by the identification of some bows on the coast of Greenland similar to those used by the Esquimaux in the vicinity of Behring Straits, Norton Sound, and the mouth of the Yucon River. Professor Nansen will take this route for his proposed expedition.

The winter of 1890-91 in the South of England has been unequalled in severity since the year 1814, when the great fair was held on the Thames. The cold was then more equally distributed, all parts of the United Kingdom suffering much alike in proportion to their latitude ; but the contrasts of temperature from Scotland to the Channel during the past winter are altogether unprecedented. In Shetland and the Orkneys the mean temperature of December was only about half a degree above the mean of the month for the last 35 years ; in Caithness it was nearly the average ; but going southward the cold differed considerably from that of former years. The maximum intensity was unquestionably at Oxford, where the mean of the month showed a difference of 2° . As is usual with all low winter temperatures, the intensity of the cold is greatest inland and farthest removed from the sea. The weather maps issued from the Meteorological Office show the cause of these singular differences ; during the whole of that period atmospheric pressure was unusually high to the east and north-east of the British Islands, and especially over Russia and Scandinavia ; thus stopping, so to speak, the usual easterly course of the cyclones over the Atlantic in North-Western Europe. In the extreme north of the British Islands the pressure was lowered below that which prevailed in the south, and consequently the preponderance of the south-westerly winds was greater. On the other hand barometers were almost constantly higher farther south. Cyclones were continually present over the Mediterranean, which either originated, or were brought in ready-made from the Atlantic, resulting in the prevalence of polar winds throughout the whole of Western Europe and a degree of

cold which will be remembered for a long time. The winter of 1890-91 was most disastrous to bird life generally, but the migratory birds appear to have suffered more than the residents, such as fieldfares, redwings, &c., hundreds of which were picked up dead or in such a weak condition as to be unable to fly. A perching bird was scarcely seen, and the few which escaped were robust enough to seek more genial regions. Fatal as the last winter was to the passerines, our usual winter visitants appeared in great numbers. Lord Ilchester wrote me word at the time that the wild-bird shooting at Abbotsbury was unusually good, and that he bagged in one week 160 woodcocks, a hooper (weighing 21 pounds), four white-fronted geese, two bean geese, two bitterns, and a quail. There was also an unusual number of wild fowl on the Decoy, including mallards, widgeon, teal, pochards, golden-eyes, tufted ducks, pintails, and a shoveller, but no scaups or sheldrakes.

On October 13th and 14th there was a very remarkable sea-level pressure, of which the lowest was at Cawdor Castle, where it was 27.96 at 1.15 a.m. From the records furnished by Mr. G. J. Symonds the pressure was less in Middlesex and Norfolk. The rate of fall was rapid both at Lissan and Glasgow, being nearly 0.20 inches per hour; but the rise at Fort William was the most remarkable, being at the rate of 0.284 inches per hour. Mr. Symonds gives a diagram representing about ten stations and the variations of pressure below 29 inches. The curves show how steep were the gradients, and the consequent heavy gales, which prevailed, resulting in serious disasters to life and property. As late as the month of August the rainfall in Dorsetshire, and indeed throughout England, was far below the average, only 13.17 inches had fallen. In February only 0.4 fell at Whatcombe; but 24.06 inches fell during the four following months, of which 7.01 inches fell in August. This large figure was exceeded in several parts of England.

The rehabilitation of Krakatoa with vegetation is a subject of much botanical interest.* It will be in the recollection

of the members that the island was visited in 1883 with one of the most devastating volcanic eruptions which had occurred for some time, and by which the northern part of the island entirely disappeared. Before the catastrophe the area of the island was about 35 square miles, of which eleven only remain. Dr. Treub found in June, 1886, a littoral flora grown from ocean-carried seeds, consisting of nine species, which, with the exception of the Javan grass, belong to the list of plants which stock the new coral islands within the tropics. The surface of the island was covered with a thin layer of confervoid algae belonging to six species, two mosses, and eleven species of ferns. The island was covered from the top to below sea-level with a layer of ashes, varying from 300 to 200 feet in thickness, so that all vegetation was destroyed. As the island is uninhabited and uninhabitable, man could have had nothing to do with planting this new vegetation. Mr. Carruthers, keeper of the Botanical Department of the British Museum, considers that the plants, with perhaps a single exception, were grown from small seeds, or spores, carried by the wind. In the case of new islands, whether of coral or volcanic origin, the first vegetation is generally born to them by water and air currents. Birds, too, are occasionally introducees of new plants. The American plant, *Eriocaulon septangulare*, With., for instance, is found on the western coasts of Scotland and Ireland, and nowhere else in Europe; Mr. Carruthers thinks its introduction to be due to the agency of an American bird. The occasional occurrence of American birds on our shores, is a well-known fact.

I began this address in terms of sorrow and regret; I must now close it in a similar strain, affecting my relations with the club as their President. That "Every dog has its day" is an adage of some truth, and the day has unfortunately arrived when I am reluctantly obliged to place my resignation in your hands. It is now 15 years since I was elected your President, an honour you have conferred upon me annually until the present moment. I should have been unable to fulfil the duties of the office had I not

received the generous assistance of the officers and of every member of the club. I cannot forget that I am the only officer left of the original number, for both Professor Buckman and the Rev. H. H. Wood have been called away. The choice of their successors has in no wise marred the progress and popularity of the club, the increasing number of their members testifying to the efficiency of their administration. The selection last year of our Vice-President and Treasurer (Mr. O. Pickard-Cambridge) by the Fellows of the Royal Society, to be one of their number, has added lustre to the Club. The Secretary's (Mr. Morton Stuart) ability as an administrator, and the efficient editor of the "Proceedings" of the Club, as well as the author of several memoirs and papers, has also contributed towards our popularity. I hope I may be forgiven for taking this opportunity of congratulating Mr. O. Pickard-Cambridge on the success of his two sons, Arthur and Owen, at Oxford, where they have distinguished themselves by getting respectively the Baliol and Brackenbury Scholarships. A similar success on the part of two brothers at the same time must be a rare occurrence in the records of the University. The many hints I have been lately receiving forcibly tell me that human strength of mind and body has its limits, and painfully remind me that both must yield to the progress of time. I tender to you now, with much sorrow, my resignation; at the same time I offer you my heartfelt thanks for the unvaried kindness and consideration which I have invariably received from the first day of my Presidentship until the present moment. I need not assure you that my interest in the prosperity of the club will remain undiminished to the last. Farewell!





Address of the President at the Annual Meeting of the County Museum,

JANUARY 20TH, 1892.

SINCE the removal of the County Museum from its former obscure site to the present one, it has been making steady progress, mainly through the care and attention bestowed upon it by the Committee of Management, aided by its accomplished Curator, Mr. H. J. Moule. Professor H. B. Flower, C.B., President of the British Association, said, in his Inaugural Address at Newcastle in 1889, that a Museum should have a curator of general scientific attainments, and who is specially acquainted with, and devoted to, the work. "Some persons," he added, "are enthusiastic enough to think that a Museum is in itself so good an object that they have only to provide a building and cases and a certain number of specimens, no matter exactly what, to fill them, and then the thing is done; whereas the work is then only really begun. What a Museum really depends upon for its success and usefulness is not its building, not its cases, not even its specimens, but its curator. He and his staff are its life and soul, upon whom its whole value depends, and yet in many of our Museums they are the last to be thought of." This opinion of so eminent a naturalist as Prof. Flower is confirmed by the present successful state of our

County Museum under the curatorship of Mr. H. J. Moule. It is now taking its place as an educational institution. The collections being arranged in sectional and subsectional order, the student can without difficulty find any object with ease, whether it be for instruction, examination, or comparison. Should the contributions to our shelves, through the liberality of members and friends, continue to flow in with equal alacrity as of late, the County Museum will contrast favourably with many other provincial museums. I do not wish to push the geological collections too prominently in preference to those of the other sciences, but having more to say upon them at this moment I shall begin with them first. Geology has a peculiar claim upon us, for the rocks are, so to speak, Dorset born. As the collections are arranged stratigraphically, any one who is acquainted with the rudiments of the science will recognise the horizon on which he is (figuratively speaking) standing, and identify each geological epoch by its characteristic fossils. A careful study of the works of Sachs, Zittel, and others will be of great use to the student of botany who is desirous of making himself acquainted not with the names and the varieties of plants but with their structure and physiology, by which their genealogies can be traced. A knowledge of osteology and anthropology are equally essential. A Pliocene bed which has been lately discovered at Dewlish has caused much interest in the geological world, as it was until now supposed to be confined to the counties of Norfolk and Suffolk. It is the most recent of the Tertiaries and immediately preceding, probably, the appearance of man upon earth. I commend to the notice of the members the large table-case containing the tusk and molars of the *Elephas meridionalis* from this bed with its associated sands, polished flints, and some cretaceous elements, borne down with them into the fissure, which fortunately received the interesting relics, showing the existence of a Pliocene bed in the West of England, and of which there had been no previous evidence. Among the fossil Turtles in the County collection, there is one which deserves a passing remark, *Palaeochelys latiscutata* (Lydekker) from the Middle Purbecks of

Swanage. It was formerly classified by Sir Richard Owen with the flat, carapaced paludine family, *Pleurosternon*, from which genus it differs in having a distinctly emarginate nuchal, and very broad vertebral shields, their width exceeding twice their length. This species has been found also in the Hastings beds of Worthing, and must have shared the muddy slimes of the Wealden estuary with the *Iguanodon*. Another confirmation of the affinity of the Purbeck fauna with that of the Wealden has lately been made by Mr. Charles Dawson, F.G.S., who has found mammalian remains in an irregular bone-bed in the Medhurst clays near Hastings. The tooth shows the double root and a tritoral crown of the multituberculate *Microlestes* pattern, similar to the hinder lower molar of *Plagiaulax* but much larger than that of any other known species. It is remarkable, too, for having been extremely worn during the life of the animal. Mr. A. Smith Woodward has provisionally named it *Plagiaulax Dawsoni*. A new Lizard allied to the family Sphenodontidae was found last year in the Middle Purbecks of Swanage, only one member of this sub-order, *Patteria*, (*Sphenodon*) of New Zealand, is known to exist. The family is characterised by the presence of a single tooth on either side of the premaxillary beak, which was not sheathed in horn. This is a valuable addition to the reptilian remains of the County. A fine series of cervical vertebrae of a *Cimoliosaurus*, from the Upper Portland beds of the Verne, Portland, has lately been lent to the Museum. It belongs probably to the same species as that of the paddle in the British Museum, named by Sir Richard Owen, *Pliosaurus portlandicus*. The slab of limestone contains about forty centra with portions of the neural spines visible. It will be worth while to have some of the matrices uncovered and the bones exposed. I should not be surprised if portions of the head may not be recovered in this way. Mr. Carruthers, F.R.S., Keeper of the Botanical Department of the British Museum, showed me a piece of Kimmeridge clay, which had been sent him by the late Mr. Damon, who supposed that the fossil was an equisetaceous plant. We did not concur with him in

this view, and thought it would more likely prove to be an Alga. It has since been examined by Mr. George Murray, the eminent Cryptogamist, who decides it to be a green-spored Alga belonging to the genus *Caulerpa* of the natural order *Siphonaceæ*, a family profuse in species, nearly all of which are exclusively natives of warm climates. The genus it nearest approaches on the British coasts is seen in *Codium*. This is an important addition to the marine botany of the past. In the Palæozoic rocks there are many markings, erroneously supposed to be remains of lower cryptogamic life, and named *Caulerpites*, *Confervites*, *Fucotes*, &c., but which have been shown by Nathorst and others to be in most cases no other than casual impressions of miscellaneous objects, trails of animals, as they crept along over the sea bottom. There are, however, certain fossil remains, such as *Nematophycus*, from the Lower Devonians, which have been described by Mr. Carruthers. The minute structure of this Alga has been studied microscopically, and it is apparent that in those far-off times, this gigantic Alga, resembling an *Udote* in structure, flourished in the seas, attaining a bulk which may be measured by feet. It was, indeed, a true marine tree. Besides this Alga, and a few questionable forms such as *Pachytheca*, we have only for certain *Pasycladea* and fossil diatoms from the Tertiary Beds. The theory of development demands the supposition that we have in this Alga the least changed descendants of the earliest forms of life that appeared on the globe; but the testimony of the rocks shows the reverse in this respect. I have the pleasure of exhibiting to-day a specimen of this interesting Alga, *Caulerpa Carruthersii*. The last subject I venture to notice in connection with geology is the discovery of the remains of the Saiga Antelope, *Saiga tartarica*, Linn., found in a true Pleistocene river deposit, at Orleans Road, Twickenham. It is the only species of the genus known, and this is the first British record of its occurrence in a fossil state. It inhabits the steppes of Eastern Europe and Western Asia, reaching as far as the Volga. Formerly it ranged throughout Western Europe. Horns are only present in the male. The excavations I am now making at the Bagber kiln afford interesting

additions to our knowledge of our native pottery industry in Roman times, which I hope to make the subject of a paper at no very distant period. Among the many bones I have come across is the skull of the hornless variety of *bos longifrons*, having two rudimentary horn-cores, a true British polled ox. A scull similar to it is in the geological collections of the British Museum, Cromwell Road. The ornithological collections of the County Museum are making equal progress with those of the geological and archæological. The greatest thanks are due to Mr. T. B. Groves and Mr. Nelson Richardson, who keep their ever vigilant eyes upon the birds who rashly visit the estuaries of Weymouth and the neighbourhood. At our last Field Club Meeting in December Mr. Groves exhibited specimens of Richardson's and pomatorhine skuas, a grey phalarope, and a gannet in immature plumage, perhaps bred in the neighbourhood. Colonel Pickard Cambridge's handsome present of birds from the neighbourhood of Weymouth, made by his brother, Mr. Henry Pickard Cambridge, deserves grateful notice. The committee will soon have to take into serious consideration how adequate room can be secured to receive our rapidly growing ornithological collections.





Witchcraft in Dorset.

By J. S. UDAL, F.R. Hist. Soc.



THERE is no part of England, I suppose, more prone to belief in the supernatural—or perhaps, I might say generally, more superstitious—than the West; and, of the western counties, none more so than Dorset. That this is attributable to the fact that the West of England is largely agricultural, and even pastoral, in its character, entailing in consequence a comparatively sparse population, may not be unlikely, for there is no doubt that in the more strictly agricultural and rural districts of England people were allowed—at all events until recent times—to grow up to a great degree in a state of ignorance, and were deprived of the advantages which the neighbourhood of towns usually confers by means of education and the fuller exchange of ideas and opinions—advantages hitherto practically monopolized by their fellows of the artisan class. Of all forms of superstitious belief none was more firmly impressed upon the minds of the country people than the belief in witchcraft—*i.e.*, in the existence of a malefic influence possessed by certain individuals (generally old women, though male witches, or wizards, were not uncommon) over the person and property of those with whom they might be brought in contact.

That country folk generally should be imbued with this belief is not astonishing when it is considered that in some form or other a belief in witchcraft was indulged in in olden times by all classes, from the king on the throne and the judge on the bench to the humblest peasant who was called to give evidence. Learned treatises have been written on the subject.

Trials for witchcraft were by no means uncommon, and if search were only made amongst the quarter-sessions records of the 17th century in the custody of the *Custos Rotulorum* of this county, and amongst the records of judicial proceedings at the county assizes during that period, numerous presentments by juries, depositions by witnesses, and indictments upon which these trials were held, would no doubt be found to exist. I regret that, owing to the distance, I am at present kept from any means of referring to these records. I am unable to do more than call attention to the probable value of these sources of information to the student of this subject. I would like, however, to refer those of my readers who are interested in the matter to a paper relating to certain proceedings taken upon a trial for sorcery and witchcraft during the period I have mentioned from the pen of our indefatigable President, Mr. Mansel-Pleydell, which is to be found in vol. v. of our Field Club *Proceedings*; and also to an account of a trial for witchcraft in this county which appears in Barnes' *Ancient Dorset*, p. 158. Interesting matter upon this and kindred subjects may also be found in Roberts' *History of Social Life in the Southern Counties*. See also the report of Hathaway's Trial in the *State Trials*, wherein witchcraft has been accorded the dignity of a State trial.

Orders were sometimes made by the judges at the assizes directing the magistrates to make enquiries into suspected or notorious cases of witchcraft, and to commit the parties for trial at the assizes if necessary. For the following note of such an order I am indebted to a correspondent in the *Somerset and Dorset Notes and Queries*, vol. i., p. 225. It was an order to enquire into a case of alleged witchcraft at Sherborne in 1660, made by the judges then on the western circuit at the Dorset Summer Assizes held at

Dorchester on the 10th September, 1660,* and was in the following terms :—

“ It is ordered by this Court that Sr. John ffitz James, knight, “ Robert Coke Esqre., Thomas Moore Esqre., Walter ffoy Esqre, “ and Winston Churchill Esq., ffive of ye justices of ye peace of this “ county or any two of them doe take care, That the busines “ concerninge the witchcraft and consultation with the devill and “ evill spiritts in Sherborne in this county bee with all speede “ examined, (and any) concerned in ye said busines bee by them “ or any two of them bound to the good behaviour. And to “ appeare att the next Assizes and Gen'rall Gaole deliv'ry to bee “ holden for this county to answere ye same. And that they alsoe “ binde over As aforesaid such p'sons of those as by them are to be “ nowe examined as they shall thinke fitt. And alsoe such p'sons “ to p'secute against them as they shall alsoe thinke (fit) and certifie their said Examinations and Informations att the Assizes.”

Such trials sometimes ended disastrously for the witches, and executions were, I believe, not uncommon in olden times.

Sometimes, however, the courts were satisfied by the accused or suspected persons merely finding security for their future good behaviour, as the following extract from the *Somerset and Dorset Notes and Queries* (vol. 2, p. 62), relating to Gillingham Manor Court, will shew :—

“ 2° Elizabeth, Maij 7, Lib' i Decenne. Decinnar'i bui ven't & “ p'sent q'd qued'm Cecilia Lambert vid' inhi'tans inf' Decenn' p'd “ est mulier male fame & gravit' suspect' de incantand' Et i'o p'cept' “ Cecilie ad prox' cur' inferre duos sufficient' manucaptor' p' bona “ gesta ipsius Cecilie sub pen' exilij de hoc man' io.”

It is interesting to find from this extract that exclusive jurisdiction in such matters was not reserved for the assize courts or the justices of the peace, but was sometimes given, at all events in Queen

* It will be noticed from this date how unusually late the summer assizes were held in this year ; the reason being in all probability that suggested by the above correspondent—namely, the train of festivities following the Restoration.

Elizabeth's time, to the local manor courts; though it will be observed that such jurisdiction was apparently confined to taking security for good behaviour, on pain of banishment from the manor —this alternative, however, being no slight penalty.

It has always been a marvel to me on reading the accounts of some of these old trials how many of these poor accused persons could ever have been brought, as was not infrequently the case, to plead guilty—that is, to admit having committed an offence of which, we all know, it was impossible they ever really could have been guilty. Human nature, however, I suppose, is the same all the world over (even with witches), and women were found ready to face the consequences of such an admission, in an age when our penal code was a disgrace to our civilization, in return apparently for the notoriety that a confession of being a “familiar” of, or on terms of intimacy with, his Satanic Majesty would bring, and the additional fear, if not respect, inspired amongst the neighbours by such a confirmation of their powers, and the consequently enhanced value of their “charms” or “spells.”

I propose now, from the notes I have made and the material I have collected in past years, to contribute a paper upon this—I think to many—interesting subject; from which it will be seen that even at the close of the nineteenth century in the county of Dorset the belief in witchcraft still ekes out a flickering existence, in spite of school boards—those great enemies to folk-lore—whose chilling influence bids fair, I am afraid, to cause our children not only to lose faith in everything their fore-elders have ever taught them, but eventually to believe in nothing at all!

In the term “witchcraft” I include “charms,” which may be considered either as the means furnished by witches to bring about the object desired by their believers, or as the weapons by which the baneful influence of the witches themselves against those who fancy they are the subjects of it is sought to be avoided. Or, again, charms may be used generally as a protection against evil, as an insurer of good luck, as a preventive of or cure for disease or illness, in which case they might come under the head of “folk-

medicine," or, lastly, may be unconnected with witchcraft altogether and adopted as a means to obtain a desired end.

The general form in which expression was given to the belief that persons were subject to the evil influence of some individual, who was exerting that influence to work an injury to them or their property, was that they were "overlooked." It was not only the witches proper or "wise women," or the wizards or "cunning men," who were believed capable of "overlooking" people or animals. Sometimes an unusually ill-tempered, shrewish, or for any reason particularly obnoxious, old woman (whose faults would ordinarily have been expiated by the application of the ducking stool or the "brank," the usual cures for a "scold") would be credited with such a power—a belief often encouraged by the poor creature as a means of protection against molestation and the petty persecution of village children, who were restrained by the fear of what might be the result of drawing her resentment directly upon themselves.

To this form of witchcraft Dorset—and indeed the West of England generally—is particularly prone, as the following instances will shew. The first one is taken from certain correspondence in the *Times* and *Standard* of a few years ago, and reproduced, if I remember rightly, in the *Dorset County Chronicle*, by which it would appear that a man of about 50 years of age applied for relief to the guardians of the Shaftesbury Union on the ground that he was unable to work. The doctor had seen him and was unable to specify any cause, though he said he was certainly incapable of labour. He himself stated the cause to be that he had been "overlooked" by his sister-in-law. His wife had been to a "wise woman" at Stalbridge, a neighbouring village, who had relieved him for a few days, but since then the spell had been too mighty and he was as bad as ever. He declined medical aid as useless. The afflicted man was a native of Gillingham, where there was a school board and every appliance of education, yet that was not enough to eradicate this most ancient of superstitions, as firmly believed in as ever.

This story was supplemented by a correspondent living at Gillingham, who stated that in his parish the power of the "wise woman" extended over man and beast. He mentioned a case wherein an old woman with a very bad temper and tongue was supposed to be in league with the "wise woman" of Stalbridge. She was about buying some pigs from a neighbour, but there was a difference between them of a shilling a head, and when she could not get her way she said she would have nothing to do with them, and added the ominous words: "And mark my words, they will never thrive with you." Curiously enough, in about a fortnight they all died, and this cross old dame had the credit of their death, and she was dreaded accordingly by her neighbours both far and near, for she was very dangerous to her own species.

The narrator of this story added that in the previous year this old woman had been very ill, but in a dream one night she saw a supposed ill-wisher of hers laughing at her through the window, and she sent to another "wise woman," who removed the illness from herself to her enemy, "which was, of course, very satisfactory for her, but not for him."

Another instance is taken from the *Bridport News* for the year 1884, which further supplies the means by which the cure of the "overlooked" was effected in that case. The wife of a woodman living in one of the parishes of Dorchester had been seriously ill for a considerable time. She had been waited on by a gipsy woman, who told her she had been overlooked. The gipsy informed her that she would never recover until the spell had been broken, which she bargained to do for a small sum of money. This was readily acceded to by the credulous invalid, whom the Romany ordered, among other things, to place certain pot flowers out of doors, and when the flowers withered she would begin to mend. The instructions were implicitly followed, and the woman, strange to say, recovered pretty nearly as the gipsy had predicted. She stated positively that the

flowers withered soon afterwards, and that coincident to this her recovery commenced.*

It was generally believed that the most effectual way of neutralizing, or of removing, the baneful influence exerted by the witch, or other person who was supposed to be overlooking the sufferer, was to draw blood from the "overlooker." That this cure or remedy bears the imprint of some antiquity may be seen from Shakespeare's play of *Henry VI.*, wherein (Act i., scene 5) Talbot says to Joan la Pucelle :—

"Blood will I draw on thee ; thou art a witch."

Again, later, Butler, in his *Hudibras* (Part ii., canto 1), treats of the same subject.

The following account, taken from a Surrey newspaper, in which a correspondent in *Notes and Queries* (5th S. xi., 66) refers to what he calls a remarkable case of superstition in Dorset, bears upon this point :—It appeared that in a cottage in the village of East Knighton

* This is not so strange as at first sight might appear. To the educated mind it is difficult to realise the effect that is sometimes produced upon ignorant persons by their implicitly obeying the instructions of, or by the adoption of the means of cure suggested by, the person they believe able to effect that cure. An instance of this is seen in the enormous extent to which the sale of "quack" medicines (which may be said to be the successors to and supplacers of that branch of folk medicine formerly dispensed in the shape of charms and spells) takes place at the present day. I never fully realised myself how completely mind can triumph over matter in this respect until I came to the South Pacific. Here, in Fiji, a system of bewitching, or sorcery, obtains by means of the *drau ni kau* (leaf of a tree), which is sometimes placed under the thatch of a native house ; and as it withers away so will the health of the person operated upon decline. This affords a curious and interesting parallel to our English superstition. It is a general belief amongst Fijians that if any one performs *drau ni kau* upon them they will die. The leaf is sometimes placed in a cleft stick, or *sau*, and inserted in the ground or garden of the person whom it is desired to affect. This belief is so firmly established that deaths have frequently occurred in consequence of it. A lady residing in Fiji recently told me the following story in illustration of the power of imagination in such a case. A certain Polynesian (*i.e.*, not a native of Fiji, but of one of the neighbouring Polynesian or Melanesian groups), employed as a domestic servant in one of the Fiji Islands, had a quarrel with a fellow servant one afternoon, and, being of a revengeful nature, plucked certain

there dwelt a woman named Kerley and her daughter, a girl of about eighteen, and the latter was supposed to be bewitched and to be the subject of the strangest manifestations. It was positively declared that articles had been thrown out of the cottage into the street, although neither window nor door was open, and these were stated to have been sent flying about in all directions. An old woman named Burt was set down as the cause of all the mischief, and she was declared to have assumed the form of a hare,† to have been chased by the neighbours, and then to have sat up and looked defiantly at them. It was positively believed that until blood was drawn from the witch the manifestations would not cease.

The following instances show that Dorset folk were not slow even in this, the last quarter of the 19th century, to avail themselves of the remedy here suggested when once they got the opportunity. The Rev. R. F. Meredith, rector of Halstock, Dorset, writing to the *Times* in June, 1883, says : "There is no need to go "to West Prussia for witchcraft towards the end of the 19th

leaves which were considered efficacious for his purpose, and threw them at the object of his wrath. The wind, however, happening to be blowing in the opposite direction, some of the leaves were carried back against the person of the would-be sorcerer. This so affected his mind that on the following morning he was unable to attend to his usual work, and intimated that he was going to die ; and, although he was fed with arrowroot and other sustaining food by my informant, who did not until afterwards know the cause of his illness, he gradually sank, and died before night-fall ! Another pathetic instance, illustrative of the extraordinary power apparently possessed by the South Sea Islanders to will their own deaths, so to speak, has been related to me on good authority. A woman who had formed an attachment to a Polynesian labourer in Fiji, and was desirous of accompanying him when on the expiration of his indenture he was being returned in a "labour" vessel to his native country, on being left behind in Fiji, swam out after the vessel as far as the reef (some two miles or more), and, on being taken back again in a boat, expressed her determination to die before the next morning ; and, taking to her bed, succeeded in carrying out her resolve !

† It is believed in some parts of Dorset that a witch often takes the form of a hare and haunts the downs and hills at night time, being only visible at the dead of night, and that nothing will take effect upon her but a silver bullet. See *The Haunted Hare*, one of the *Songs of Dorset*, contained in a collection of poems called *The Olden and Modern Times*, by the Rev. W. Smith-Marriott, published in 1855.

“ century. In a parish where the counties of Devon, Dorset, and
“ Somerset meet, a young man, being afflicted with scrofula, which
“ caused at times contraction of the muscles of the right thigh and
“ very considerable pain, formed the idea that a poor delicate
“ woman living next door, wife of a labourer and mother of several
“ children, had bewitched him, and one day in his agony rushed
“ into her house with a large sewing needle, and before the woman
“ had time to think, scratched her severely in the neck and in four
“ places on her bare arm, drawing blood in each instance, then
“ rubbed his hand on the blood, and ran off. The poor woman
“ came to me to complain, showing the scratches, and I advised her
“ to take out a summons before the justice, but time passed. The
“ young man, as usual, felt relieved of his pains for a time, and
“ his mother, a widow occupying a few acres of land with
“ cows and pigs, tried to assure me that drawing the blood
“ cured her son, for she considered the other woman had over-
“ looked him.’

Another case, which came before the Sherborne magistrates, is taken from the *Western Antiquary* (which does not, by the bye, often deal with Dorset subjects) for December, 1884, p. 143, and from a similar account in the *Folk-lore Journal* for 1884, p. 349, from which it would appear that at Sherborne on the 19th September, 1884, an old woman named Sarah Smith, who lived in Cold Harbour, and was 83 years of age and in receipt of parish relief, was violently attacked by a next-door neighbour, one Tamar Humphries, a married woman, in order that the latter might draw blood from the old woman on the ground that she had bewitched her daughter, a confirmed invalid, suffering from rheumatism. It appeared from the report that the poor old woman, who was well known as a quiet inoffensive person, was in her garden digging potatoes, when she was set upon by the defendant, who put her hands on her shoulders and said “ Oh ! you Sal Smith, what’s thee done to my daughter ? I’ll draw the blood of thee.” The defendant then repeatedly stabbed her with a darning or stocking-needle about her hands and arms, making them bleed, telling her at

the same time that she was a witch and that she would draw her blood for "witching" her daughter.

The next instance is a West Dorset case, reported in the *Dorset County Chronicle* for July, 1887, in which a working man conceived the idea that certain mishaps which had recently occurred to him were the result of supernatural agency employed by his next-door neighbour, a quiet inoffensive woman, who felt the utmost indignation at the charge. Her accuser, however, was not to be pacified, but with reap-hook in hand was about to take what he considered to be effectual means to "break the spell," when the interference of a third person prevented him from carrying out his design.

It would appear from the following account sent by a correspondent, on the authority of a Dorsetshire clergyman, to *Notes and Queries* (4th series, xi., 341) that the power of the person supposed to be overlooking another did not always cease with the death of the overlooker, but that something further was required before the evil influence could be said to have entirely departed.

An under-gardener in a gentleman's service did not appear one morning at his usual time ; it turned out that he had been sitting up with a dying man who he believed had bewitched him, in order that the moment the man died he might set his foot on his neck, and so break the spell !

The foregoing cases are instances where the "overlooking" already existed, and where means were sought to "break the spell;" but frequently steps were taken in order to prevent the approach or advent of the evil. For this purpose the use of "charms," such as the nailing up of a horseshoe, and various other means, were adopted, presumably with more or less success. There were certain physical obstacles, too, which sometimes were supposed to stand in the witch's way ; for instance, a witch was always considered to be hindered in working her spell if a stream of water should happen to exist between her and her victim.

There does not seem to be, so far as I can gather, any idea existing amongst Dorset folk as to witches being in the habit of meeting together for the purpose of working their spells, or other

evil designs in common—*e.g.*, somewhat after the manner related of their fellow-witches in Scotland (*Conf.*: Shakespeare's *Macbeth* and Burns' *Tam o' Shanter*). The only reference of the kind relating to Dorset that I can find is a statement made by our Burns in vol. iv. of our Field Club *Proceedings*, where at p. 156 the late Mr. Barnes says that many years ago he was told by a man of the neighbourhood of Leigh Common that a corner of the common was called "Witches' Corner," and that, long again after that, a friend gave him some old depositions on witchcraft taken before Somerset magistrates from about the year 1650 to 1664. The cases were of Somerset, and touched in some points Dorsetshire, and one of the witches' sisterhood said that they sometimes met on Leigh Common. This proof of the meeting of witches on Leigh Common as the ground of the traditional name of Witches' Corner is interesting, Mr. Barnes remarks, as a token of truth in tradition. Roberts, in his *History of Lyme Regis* (p. 261), writing upwards of a half-a-century ago, says that "of superstitious belief in witches and evil "spirits there 'still appear some traces. Our vessels and many "houses have an old horse-shoe nailed up. No one now likes to "own a belief in evil spirits or witches, but considers it would be "a pity to receive harm from neglecting so easy a precaution. In "some chimneys a piece of bacon, stuck with pins, used to be "suspended to interrupt witches in their descent, and so prevent "their visit. Toads that gained access to a cellar or house were "ejected with the greatest care, and no injury was offered, because "these were regarded, as being used as *familiars* by witches, with "veneration or awe."

An interesting illustration of that to which Mr. Roberts alludes occurred some five or six years ago in the parish of Hawkchurch, in West Dorset (an account of which appeared in the *Bridport News* in March, 1884). A new tenant had recently entered into possession of a house in the village which had just been vacated, when it was necessary to displace what was thought to be a lodgment in one of the chimneys. The obstruction was got out, and was found to be neither brick nor stone, but a bullock's heart, into which was

struck a quantity of the prickles of the white thorn, some nails, pins, and other things*. A correspondent suggested that as the late occupant was a bachelor, possibly he might have used the "charm" to ward off the attacks of the ladies and to prevent "witches" from getting access to the house by means of the chimney! This correspondent is undoubtedly right in conjecturing that the obstacle in the chimney was intended to act as a charm, for a bullock's heart so placed was always considered by superstitious Dorset folk to be the most effective way of keeping witches or fairies out of a house, as it was by the chimney they were generally supposed to effect an entrance. More especially is the charm to be depended upon if the animal's heart (as in this case) be previously studded with prickles of thorns, nails, or pins in the same way as Mr. Roberts mentioned with regard to pieces of bacon used for a similar purpose.

Certain "wise women" and "cunning men" have at times attained considerable notoriety for their imaginary powers and the supposed efficacy of their spells or charms, and superstitious persons from far and near were drawn to them for the purchase of their charms or the benefit of their advice, to the no small hurt, I may say, of Her Majesty's liege subjects, and to the no small gain of these unscrupulous charlatans. Men of this class were often called "white witches." From the correspondence in connection with the case that came before the Guardians of the Shaftesbury Union already alluded to it appeared that not long since a "cunning man" used to hold an annual *levée* in the neighbourhood of Stalbridge, when he sold out to crowds that thronged round him the legs torn from the bodies of living toads and placed in a bag which was worn round the neck of a patient, and counted a sovereign remedy for scrofula and the "overlooked." It was called

* This bullock's heart, in exactly the same state in which it was removed from the chimney of the cottage at Hawkchurch, is now in the Literary Institute at Bridport, and was exhibited at the meeting of the Dorset Field Club at that town in July, 1889, when I myself saw it. It presented a very dry, shrivelled, and almost mummified appearance, evidently having been in the smoke for many years.

“Toad Fair.” For an account of a similar individual who lived at Lydlinch and had a great reputation, see the *Life of the Rev. William Barnes* (p. 155), by his daughter, Mrs. Baxter, recently published.

Mr. Roberts, in the *History of Lyme Regis*, speaks of one who lived at West Leigh, on the Tiverton and Wellington Canal, to whom persons who either had lost property, had been charged with theft, or had had very ill-luck, would go from Lyme Regis—a distance of 30 miles—for the purpose of consulting this famous “white witch!” In 1828, he says, this man, who traded in common chairs, manufactured in that neighbourhood, misdirected a letter to a tradesman at Lyme, which contained some rediculous advice about continuing some charm. Mr. Roberts goes on to say that “unlucky days, omens are talked of, if not much depended on ; fortune-telling * and consulting the white witch are indulged in at the expense of both money and time ; a pernicious and wicked practice whose effects are attended with very injurious consequences. Certain houses are spoken of as being ‘troublesome’ or haunted. Noises—the crowing of the cock by night, and the death-watch, are fancied to have been heard before the death of any person.”

As was only to be supposed, our own Dorset Poet—although he seems never to have made a special study of the subject of folk-lore was brimful of it—as so many passages in his delightful idylls testify—treats of witchcraft in a quaint little poem of his called “A Witch” (p. 173 of the complete edition of his poems), wherein he describes in his happiest vein all the fears, powers, and effects

* I do not consider the art of fortune-telling as coming within the purview of a paper on witchcraft, though doubtless many so-called witches derived a considerable portion of their unholy gains from such a source. Such a practice obtains now amongst ignorant servant girls and others, and even their more educated sisters, have oftentimes no aversion to their palms being “crossed with silver” by some wandering gipsy. However, the firm application of the wholesome laws relating to “rogues and vagabonds” have had a salutary effect, and practically the Romany forms the only professional class of fortune-tellers now existing. Within the last year or two, however, I remember reading the account in a local paper of a case which came before the Weymouth bench of magistrates.

that may be produced on the rural mind by such a being. I therefore make no apologies for reproducing it here.

A WITCH.

“ There’s thik wold hag, Moll Brown, look zee, jus’ past !
 I wish the ugly sly wold witch
 Would tumble over into ditch ;
 I would’en pull her out not very vast.
 No, no. I don’t think she’s a bit belied,
 No, she’s a witch, aye, Molly’s evil-eyed.
 Vor I do know o’ many a withren blight
 A-cast on vo’k by Molly’s mutter’d spite ;
 She did, woone time, a dreadful deäl o’ harm
 To Farmer Gruff’s yok, down at Lower Farm.
 Vor there, woone day, they happened to offend her,
 An’ not a little to their sorrow,
 Because they woulден gi’e or lend her
 Zome’hat she come to bag or borrow ;
 An’ zoo they soon began to vind
 That she’d agone an’ left behind
 Her evil wish that had such power,
 That she did mēake their milk an’ eäle turn zour,
 An’ addle all the aggs their vowls did lay ;
 They coulden vetch the butter in the churn,
 An’ all the cheese began to turn
 All back agēan to curds an’ whey ;
 The little pigs, a-runnen wi’ the zow,
 Did zicken, zomehow, nobody know’d how,
 An’ vall, an’ turn their snouts toward the sky,
 An’ only gie oone little grunt, an’ die.
 An’ all the little ducks an’ chicken
 Wer death-struck out in yard a-picken
 Their bits o’ food, an’ vell upon their heads,
 An’ flapp’d their little wings an’ drapp’d down dead.
 They coulden fat the calves, they woulден thrive ;
 They coulden sēave their lambs alive ;
 Their sheep were all a-coath’d* or gied noo wool ;
 The horses vell away to skin an’ bwones,

*A disease of the liver to which sheep are particularly subject in wet seasons or in ill-drained pastures.

An' got so weak they coulden pull
 A half a peck o' stwones.
 The dog got dead-alive and drowsy,
 The cat vell zick an' woulden mousy ;
 An' every time the vok went up to bed,
 They wer a-hag-rod till they wer half dead.
 They us'd to keep her out o' house 'tis true
 A-nailen up at door a hosse's shoe ;
 An' I've a-heard the farmer's wife did try
 To dawk a needle or a pin
 In drough her wold hard wither'd skin,
 An' draw her blood, a comen by ;
 But she could never vetch a drap,
 For pins would ply* an' needless (*sic*) snap.
 Agēan her skin ; and that in coo'se
 Did meäke the hag bewitch em woo'se."

CHARMS.

I now come to that branch of my subject which though at times strongly savouring of witchcraft cannot be said to be necessarily a part of or connected with it, viz., "charms." Those charms which are more particularly connected with witchcraft, and which may be distinguished as "spells," I have already dealt with. The remaining ones may be divided into two broad classes: (i.) Those which relate to the prevention of, or cure for, disease or illness, which may be considered as appertaining to "folk-medicine," and (ii.) Those miscellaneous and various charms which are adopted for the purpose of realising a particular object, or bringing about a particular event.

The following I have noted down from time to time as appertaining to Dorset, though doubtless in several cases, not to Dorset alone.

TOOTHACHE :—

(i.) Go to a young oak tree, cut a slip (?) in the tree, cut off a bit of your hair and put it under the rind, put your hand to the tree, and say to the tree : "This I bequeath to the oak tree, in the name of the Father, and of the Son, and of the Holy Ghost. Amen." †

* Bend.

† Conf : *Notes and Queries*, 5th Series, viii., 143-275.

(ii.) Peter and Paul sat on a marble stone,
 Jesus came to them alone ;
 " Peter," said he, " what makes you so quake ?"
 " Why, Lord and Master, it is the toothache."
 " Whoever will carry these words for my sake
 Shall never be troubled with the toothache."*

(iii.) As Peter sat on a stone weeping, our Saviour came to the Mount of Olives and said : " How is it here, Peter ? " Peter answered and said : " My Lord and my God, grievously tormented with the pain of the tooth." Our Saviour said unto Peter : " Arise, Peter, and be made whole. Whosoever believeth on me and keepeth these words in memory or in writing shall never be troubled with the pain of the tooth, in the name of the Father, and of the Son, and of the Holy Ghost. Amen."

(iv.) Double or twin nuts are sometimes carried in the pocket as a specific against toothache.

To STOP A SNAKE :—

Repeat the words " Let God arise and let his enemies be scattered."

The same effect is also produced by repeating the following verse : " They are as venomous as the poison of a serpent, even as a deaf adder that stoppeth her ears, and refuseth to hear the voice of the charmer, charm he never so wisely."

SNAKE BITE :—

In the case of a bite from an adder (or presumably any other poisonous snake), the fat taken from the one that has caused the injury is considered the best cure for it.

BOILS :—

Creep under a bramble three mornings following, against the sun, before sunrise.

WARTS :—

(i.) Steal a piece of beef, rub the wart with it, and throw it over your shoulder, or bury it ; and as the meat rots, so will the wart disappear.

* For a similar one at Crewkerne, co. Somerset, see *Notes and Queries*, 5th Series, viii., 275.

(ii.) Go to a sloe bush unseen, bite off part of a growing sloe, leaving the portion with the stone in it still on the bush ; rub the wart with the part bitten off, and throw it over your head or shoulder.

(iii.) Take a small stick and cut on it as many notches as you have warts, then put it in the ground, and as it rots the warts will disappear.

(iv.) The following charm for warts was given by Mr. Edmund Gosse in *Longman's Magazine* for March, 1889, being found amongst some unpublished papers of his father, the late Philip H. Gosse, F.R.S.. depicting the latter's childhood at school in Poole in the early part of this century :—“ I was told to rub the wart with a bit of cheese, which was then to be buried secretly, and I was then assured that as the cheese decayed so would the wart. I followed the directions implicitly, and the wart did disappear totally within a few days, with no further process ; but how much of the result was owing to the magic I dare not say.”

A STYE :—

Cross the “ stye ” three times with a wedding ring, which must be of gold to be efficacious.*

SORE EYES :—

Water from a spring which rises, facing due east, is said to be a cure for sore eyes, especially if the water be taken at the moment the sun’s rays first light upon it. A spring rising in a field at Symondsbury Farm, near Bridport, has this reputation. It certainly is most delicious water to drink, and is possibly impregnated with iron, which may account for its real or supposed efficacy.

JAUNDICE :—

The late Canon Bingham wrote some years ago to *Notes and Queries* (I am sorry I have lost the reference) : “ I scarcely know whether ears polite will tolerate the record of a sovereign remedy

* Conf. : *Notes and Queries*, 5th Series, viii., 181. Also Jones’s *Finger-Ring Lore*.

for jaundice, which fell under my notice in a parish in Dorsetshire a few weeks since, but which I find upon enquiry to be generally known and practised in the neighbourhood. The patient is made to eat nine lice upon a piece of bread and butter. In the case referred to, I am bound to state for the credit of the parish, that the animalcules were somewhat difficult of attainment; but that, after having been duly collected by the indefatigable labours of the village doctress, they were administered with the most perfect success."

RUPTURE :—

It was believed that if a young maiden ash (*i.e.*, not polled) were split and a ruptured child drawn through it he would become healed.*

EPILEPSY :—

Mr. Roberts, in his *History of Lyme Regis*, p. 261, states that in April, 1826, a respectable looking woman was engaged in collecting a penny from each of thirty young women, unmarried, the money to be laid out in purchasing a silver ring, to cure her son of epileptic fits. The money was to be freely given, without any consideration, or else the charm would have been destroyed.

Mr. G. W. Floyer, writing to the *Dorset County Chronicle*, gives the following version of the same charm as prevailing in the Isle of Purbeck. He says it is customary for a young man to collect thirty pennies from the maidens of his acquaintance; or in the case of a maiden from the bachelors of her acquaintance, to change them for half-a-crown out of the money presented in the offertory, then to have the coin beaten out and made into a ring. The ring is then worn as a trustworthy charm against epilepsy.

FITS :—

The same correspondent also states that at a certain village in Purbeck a mother came to the clergyman to ask if he would have any objection to her daughter's stealing a cup from him? She had

* See the *Additional Glossary to the Dorset Dialect*, by the late Rev W. Barnes, wherein the author states that he has known of two trees through which children have been so drawn.

been told that pounded crockery which had been taken unawares from a minister was a sure cure for fits.

HEADACHE :—

It is believed by some people that a snake skin worn in the hat or bonnet is a remedy for headache.

BRONCHITIS OR WHOOPING COUGH :—

(i.) Take nine hairs from the "cross" or back of a white she-ass ; sew them in a silken case or bag, and wear them round the neck. A correspondent tells me that this remedy was tried some 20 years ago in a Dorset town, when a journey of more than a dozen miles had to be taken to find the desired kind of animal.

(ii.) When the patient was a child the following alternative was sometimes used. Pass the sufferer under the body of the donkey, and then over its back, three times. In order to avoid taking cold these rites were generally performed indoors, the animal having been brought into the house for the purpose.

TROUBLESOME INFANTS :—

A correspondent of *Notes and Queries* * says that in the centre of Dorsetshire it appears to be commonly believed that a dose of hare's brains is an excellent soporific for troublesome infants. And he gives an instance of this in which a woman, having recently had the misfortune to become the mother of twins, had consulted his wife as to the desirability of a dose of hare's brains. On the lady's husband mentioning this circumstance to his keeper in the hope of eliciting some information as to the prevalence of the belief, he was informed that shortly before the wife of the keeper on the adjoining manor, who had been recently confined, had called at his house and had told his wife that she had been down to the squire's house to beg a hare's head from the cook, in order to give the brains to her baby as a sedative.

From another correspondent in the same periodical † it would appear that sometimes a dose of rabbits' brains was used for the

* 6th Series, iv., 406, and see p. 547.

† *Notes and Queries*, 6th series, xi., 306.

same purpose. He states that a poor woman of Lyme Regis, whose child was very restless and fractious, had consulted an old woman of the town as to what she ought to do. The old woman assured her that the child would never be well until he had eaten the brains of a rabbit ; whereupon a rabbit was purchased and the brains were gravely stuffed down the child's throat.

QUARTER-EVIL IN CALVES :—

In order to prevent this disease you must be sure to commence rearing the calves by hand on the same day of the week as Old Christmas Day falls upon.

KING'S EVIL :—

It is believed that a seventh son can cure diseases, but that a seventh son of a seventh son can cure the king's evil.

The power of a seventh son in such matters was generally recognised by superstitious folk. Mr. Roberts in his *History of Lyme Regis* (p. 261), speaking of this subject, states that once when at a farmhouse near Lyme Regis, in 1828, engaged in taking a view, though the other children about him were made to stand off, one little urchin was allowed to lay hold of his pencils, &c. On his remarking to his mother upon this deference shewn to the child, she replied "He's a seventh son, Sir," and added that "she did think, to cure all diseases, should be the seventh son of a seventh son, but many folks do come to touch my son."

"Touching" for the "king's evil" was a very prevalent practice in bygone days.

BED CHARM :—

Matthew, Mark, Luke, an' John,
Be blest the bed that I lie on.
Vow'r corners to my bed,
Vow'r angels all a-spread,
Woone at head, an' woone at veet,
An' two to keep my soul asleep.*

* There are many variants of this rhyme. The above is from Barnes' *Glossary of the Dorset Dialect*. S.V. *Charm*.

FOR A COOL HAND IN BUTTER MAKING :—

If you want always to have a cool hand for making butter, have a young puppy, cut it open, and put your hand and arm in whilst the animal is still warm.

TO FIND A DROWNED CORPSE :—

The following account was sent to *Notes and Queries* (5th Series, ix., 111) by the Rev. C. H. Mayo :—“On January 24th, 1872, a boy named Harris fell into the stream at Sherborne, Dorsetshire, near Darkhole Mill, and was drowned. The body not having been found for some days, the following expedient was adopted to discover its whereabouts. On January 30th a four-pound loaf of best flour was procured and a small piece cut out of the side of it, forming a cavity, into which a little quicksilver was poured. The piece was then replaced and tied firmly in its original position. The loaf thus prepared was then thrown into the river at the spot where the body fell in, and was expected to float down the stream until it came to the place where the body had lodged, when it would begin to eddy round and round, thus indicating the sought-for spot. An eyewitness of this experiment, from whom I received this account a few days after it happened, told me that no satisfactory result occurred on this occasion.”

TO TEST LOVE OR FRIENDSHIP :—

If two persons be desirous of testing their love or friendship for one another a key is secured between the pages of a Bible, being carefully placed at the passage in the 5th chapter of the Book of Ruth commencing “Where thou goest,” &c. The book is then held up by the bow of the key on the fore finger of their right hands, and the person whose love or friendship is the subject of the test repeats the above verse. If the Bible turns (as it generally does) it is considered a favourable augury for the continuation of the affection or friendship.

The charms, or means of divination, practised by rustic maidens in Dorset, in order to test the sincerity of their sweethearts, such as throwing apple-pips into the fire, scattering hemp seed, and placing their shoes in the form of a T on Christmas Eve, are well known.

To TREBLE MONEY :—

The following account, taken from a London paper, appeared in the *Dorset County Chronicle* in 1882* :—“On the 23rd December a dairyman left home for a market held in the neighbourhood of Bridport, his wife remaining in charge of the dairy. On returning home he found his wife agitated and apparently unwell. She simply complained of slight indisposition, which continued till the following Saturday (30th ult.). During the morning the dairyman went to his cash box, which was kept in a bedroom, and at once missed between £3 and £4. The wife was at first reticent on the matter, but ultimately confessed that a couple of women (strangers) had promised her, during his absence on the previous Saturday, that for a few shillings they would convert any amount of gold to treble its value by Easter Sunday next, provided they were allowed to trace the planets upon the coins and then secrete them about the premises; but on no account were they to be touched before Easter Sunday, or the planets would be unpropitious and visit the house with affliction. The dairyman, in spite of these protestations, forced from his wife the knowledge that the money was hanging in the chimney. He there found a semi-smoked heart, evidently that of a pig or a sheep. It was tightly encased in wrappings of scarlet and black material. A number of crosses and other emblems formed of projecting pins covered it completely on one side. On opening it, the cavity of the heart was found to contain several farthings, which had been brightened by some rough substance. It is believed the strangers were travelling gypsies, but at any rate they have absconded the richer by several pounds.”

I need only add, and I trust my request will not be weakened by distance, that if any Dorset friend would kindly supplement this paper with any instances or illustrations of witchcraft that have come under his or her notice in the county, either by sending them to me or, which would be better perhaps, by sending them to the *Dorset County Chronicle* (I shall see them in course of time), I shall be very grateful.

* See also a similar account in *Folk Lore Journal* for Oct., 1883.



The Diary of William Whiteway,

OF DORCHESTER, CO. DORSET, FROM NOVEMBER, 1618, TO MARCH,
1634.

Rev. W. MILES BARNES.



THIS Diary now in the British Museum contains notes of much local interest. Being in MS. and having become public property only since 1840, when it was purchased for the British Museum, it has not come under the notice of local historians.

Hutchins states that a diary written by a son of William Whiteway was in the library of S. John's College, Cambridge, in his day; nothing is known of it there, nor is the book to be found in the library of S. John's College, Oxford, to the librarian of which college more than one enquirer has been referred. It is not improbable that this journal is the diary mentioned by Hutchins, for the writer was a son of William Whiteway.

William Whiteway, junior, the writer of our journal, was one of the leading Burgesses of Dorchester. He owned an estate in the parish of Martinstown and was related to some of the principal persons in this neighbourhood, besides which he held various civic offices, including the highest municipal dignity. He was therefore well informed on matters of much interest, and in a position to give accurate information.

The book is a small *duodecimo* volume. On the first page is a rough pen-and-ink sketch of a coat of arms, possibly his own, and here and there the margins and vacant spaces are utilised for little domestic accounts, the first of these, dated Jan. 1, 1625, some years after the

commencement of the diary and his own marriage, begins with the entries—"paid my wife 3s. 6d," "paid 4th Feb. 12s.," "paid 7th for a cap, 6s.," from which entry we gather that Mrs. Whiteway was accustomed to wear the "capp of woll knit," which the maternal government of Queen Elizabeth—in support of home industries and to the confusion of the foreign French hatters, who then as now set the fashions in headgear—ordained by statute A.D., 1571, should be worn on Sabbath and other Holy Days under a penalty of 3s. 4d. a day. How would the ladies in these days submit to a sumptuary law prescribing what kind of bonnets they should wear on Sundays under a penalty of 3s. 4d.? The ladies did not appear to like it in Queen Elizabeth days, for the statute was repealed a few years after it was made, though the custom of wearing the woollen cap seems to have continued.

As the reading of the whole diary would occupy some time, I shall pass over most of the references to home and foreign politics which have lost their point, and confine myself mainly to the entries which are of local or at least of general interest. The first entry is dated 1618—

In the year of the reign of our Sovereign, Lord James, by the grace of God, King of England, France, and Ireland, defender of the faith, and of Scotland the two-and-fiftieth.

"Sir Walter Carle, Knight, was sheriffe of Dorset; John Gould, and William Joliffe, Bailliurs of Dorchester; John Hill and Dennis Bond, Constables."

Nov., 1619. There was seen a blazing star in the south-east, which continued.

Sir Walter Rawleigh was beheaded in London about the end of October, and after his death was much lamented by the Londiners, having acquitted himself of the death of the Earl of Essex and of his Atheism as appeared by his speech at his execution. About the same time also there were many reports of wars betwixt England and France and the Low Countries, but no certainty in any of them, the ground only was because there was no English Ambassador in France, nor French in England. (Then follow some lines on Sir Walter Raleigh and the Spanish Armada).

Aug. 28, 1619. In this month there was established a custom upon all wool cloth, being on our Dorsets 9d. more than before and 6d. on a Devon, what will be the issue of it is not yet known.

Oct. 1, 1619. Mr. John Parkins was chosen to his third Baillewicke ; Mr. Dennis Bond, Constable, with Mr. John Cooke and Matthew Buttler, shoemaker, being the first year that we had three constables.

November. Sir Anthony Ashley was chosen sheriff of Dorsett, being an ancient gentleman and knighted in Calais by the Earl of Essex for his valour. He chose for his under-sheriff Mr. John Cole the younger of Piddletown."

It is not generally known that the Ashley family has been so long and so honourably connected with the town, and that Sir Anthony Ashley was knighted for his valour on the field of battle. Sir Anthony and Sir Francis Ashley are frequently mentioned in this diary.

"Feb. 26, 1619. The beginning of this year was very sickly for all sorts of persons, especially of young children. A great number have died since the first of January.

Ap. 6, 1620. Was concluded the marriage betwixt me Wm. Whiteway, and Eleanor Parkins, my best beloved wife which I pray God to bless and prosper.

May 4, 1620. The said W.W. and E.P. were bewrothed in my father Parkins his hall about 9 of the clock at night, by Mr. John White in the presence of our parents, Uncle John Gould, C. Darby, and their wives, my cousin Joan Gould widow, and my sister Margarie Parkins.

June 14, 1620. I William Whiteway was married to Eleanor Parkins by Mr. John White in the Church of the Holy Trinity in Dorchester, in the presence of the greatest part of the town, which marriage I pray God to bless that it may turn to his glory and our good, and the comfort of all our friends.

The wedding ring had this posy—" *Conjugii firmi et casti sum pignus amoris.*"

This John White Rector of Holy Trinity Dorchester was a remarkable character, according to Hutchins he was born in 1575, was educated at Winchester School, became a fellow of New College in 1595, and Rector of H. Trinity in 1606. At first he was a moderate Puritan, and conformed to the Church of England, but in the beginning of the Long Parliament he, together with Hugh Thomson, who came as lecturer here

in 1634, and Benne Rector of All Saints, "seduced all the town to take the Covenant" (Hutchins).

"Sep. 29, 1620. There were chosen burgesses of Dorchester Bailiff for this year.

Mr William Whiteway 3.

Mr Edmund Dashwood 2.

Constables Mr John Cooke—Mr John Blackford. Christopher Way. Sheriff of Dorchester Sir Nathaniel Napper Knight. Undersheriff, Mr Newman of Fiford."

In November of this year a collection was made for the defence of the Palatinate "and in Dorchester was given £200."

December 1620. 12th hereof—were chosen the Knights of Parliament for Dorset Sir John Strangwaines and Sir Thos Trenchard; for Dorchester were chosen Burgesses Sir Francis Ashley sergeant at law, and Mr. Thos Parkins."

The names are also given of the members elected for Weymouth and Melcombe, for Brickford and for Lyme.

"Jan 3, 1620. There came into the country a proclamation to forbid all men to speak of matters of state either of this kingdom or of any other place, upon pain of his Majesty's high displeasure."

The times were becoming troubled and the discontent which culminated in the civil war increasing.

Jan. 13, 1620. "Sir Francis Ashley who had been chosen Burgess of Parliament for Dorchester resigned over his place unto Sir Thos Edmundes Knight, of his Majesty's Privy Council and steward of his Majesty's house, who had lain ambassador at the French Court many years."

Under date March 9 it is stated that Sir Francis Ashley was again chosen burgess for the parliament "Sir Thos Edmundes being before chosen for another place."

Sir F. Ashley was descended from the Ashleys of Wimborne S. Giles; in 1615 he was made sergeant at law, and was knighted in 1618. He became steward of the Marshalsea of the King's household in 1625, and King's sergeant and Recorder of the borough. (Savage and Hutchins). His residence in the town was the Friary which he altered, and in Hutchins' time his arms were still on the walls of two of the rooms of the buildings, with the date 1623 not far from one of them. Sir Francis' sole

heiress and daughter married the famous Denzil Lord Holles which accounts for the Friary afterwards becoming his residence, and where indeed, he died. Lord Holles' monument may be seen in St. Peter's Church.

1621. "Mr. John Churchill Esq. died the first of June and was buried the 7th in St. Peter's Church in Dorchester, aged about 50 years or upwards."

We have here the mention of another family, anciently and still connected with Dorchester. This John Churchill held at his death with other property :—One messuage called the Angel in the parish of All Saints, also Lowdes Field, Colliton, and Glydepath. Colliton came into the possession of the family in March 12th, 1550, when the King (Ed VI) granted by letters patent to John Churchill "the whole of the late free chapel of S. John's in Dorchester, and the Capital mansion to the same belonging." His Majesty, however, reserved to himself all the bells and lead roofing ; the sum which these fetched should be found in the sheriff of Dorset's account in the Pipe Rolls of the date.

Aug. 16th. "Mr. William Horsford one of the aldermen of this town died, and in his room was chosen Mr. Barnard Toope ; upon the 29th died Mr. Richard Barker, alderman, and in his place was chosen Mr. Dennis Bond to make up the number."

Sept 11. "This was a very cold and moist summer which ripened corn but slowly so that it began to rust at harvest which was very late, there being corn in the fields till the 10th of October. It was also a very great year of plums so that a peck were sold for a penny.

Oct. 2. A list is given under this date of the persons elected to various offices, Bailiff, Sheriff, Constables, &c., for the future I shall omit the mention of the names of persons elected to municipal and other offices unless there is any special reason why they should be given.

"This same day came . . . certain commissioners with the broad seal (?) of England to dig in a hill at Upway near Dorchester for some treasure that lies hidden underground, but having spent three days about it, they went away having found there nothing but a few bones, saying they meant to dig at Bincombe and under that pretence went away."

If there were any antiquaries dwelling in the neighbourhood of Dorchester they must have been highly amused at seeing this company

of men armed with the authority of government, spending three days in digging for treasure into a British barrow, and of course finding nothing but bones and perhaps an urn or two, and then solemnly going off to Bincombe to repeat the process.

On December 20 Mr John Hill ironmonger was elected alderman, and a mad tailor named Spring on the 18th Feb went through the streets of the town crying "Woe, woe to Rome, that bloody city, and many other woes to divers other persons, but especially unto Papists and Jesuits no one hindered him, he said he was commanded to do it by one that met him with a red cap."

1622, June. "In this month was there a march appointed in all highways throughout England at every crossway, one by day, and two by night perpetually to give notice, if any tumult should arise for want of trade, as there did of late in Wiltshire and Gloucestershire.

September. "In this month was built the common brewhouse in Dorchester for the maintenance of the hospital."

This Brewhouse was built on land adjoining the hospital on the west side of South-street.

Nov 26. "I began my Dutch Dictionary."

Jan 30, 1622. "This day about one o'clock in the afternoon this town took on fire in the house of Mr John Adyn in the higher parish, burnt 25 houses in that parish thereabout to the value of £35,000 St. One man was burnt in William Shepherd's house to wit Edw. Benbenewe, who running home all black and deformed by the fire, and being followed by some friends who laboured to stay him, to have him drest, was met by Mr. Coker's man Jaspard Arnold. He thinking him to be some felon, had a pole in his hands, and beat him with it grievously and struck him down, he died within two days. The King's Majesties granted for it a collection over all England.

"In the official account of the fire, the cause of the death of Benbenewe is suppressed. It is stated "There was one man so burnt and scorched in the fire (Edmund Benbenewe) that he died in 24 hours or thereabouts. He was a tile-layer."

Mr. Whiteway's account does not accord with Hutchins, either in the number of houses destroyed or their value. In Hutchins' account there

seems to be some confusion between this fire and that which occurred on Dec. 16, 1623.

1623. The 25th, May, being Sunday there landed at Weymouth the Lord Cary out of Spain, Lord Chamberlain to the prince with many of the prince's servants, they rode away presently post to the Court, and ten days after came out an extraordinary Ambassador from Spain, but his message is not yet known.

30th May died Mrs. Gould wife to John Gould Bailiff. The 1st June died Mrs. Arundel Friake of Upway daughter to Sir George Trenchard, Knight.

August. The twenty-fifth of this month the King's ships arrived in Portland in their voyage for Spain to bring home the Prince and his lady, they reported that the Prince was married the 24th ditto and was to come from Madrid four days after, and at the end of 20 days to be at the sea side to take shipping. The Earl of Rutland is Admiral of the Fleet. With him are divers Lords. They departed from Weymouth the next day about midnight. The Prince Royal bearing the Admiral is a vessel of wonderful bigness strength and beauty.

Dr. Wright our New Bishop kept his visitation here this year in September. Mr. Cheek acted two comedies at the shirehall for his coming, by his scholars.

Robert Cheek was the head-master of the Free or Grammar School which was built and endowed by Thomas Hardy in 1559. The school suffered much injury in the great fire of 1613 and was in part rebuilt five years before the date of this entry (1618) by this master Robert Cheek who added the great School with the library over it. Robert Cheek was also Rector of all Saints, in which post he was succeeded by James Whitefield in 1629 (16 Dec.) There were formerly oak stalls in St. Peter's Church for the use of the scholars. These stalls had disappeared long before the restoration of the Church in 1857, and the position they occupied cannot now be determined.

The three following entries give varied information. In the beginning of the month September there came into Weymouth a Polacra which had a crew of eleven men of different nationalities, who slew 9 Turks, and brought home as prisoners 16 more.

Throughout the winter the small-pox was very prevalent in the town, and many children, and some elder people died.

In the beginning of February the cold was intense, so that many people were frozen to death on the highways.

In March Sir Arthur Smitheyers with his household took up his residence in the town.

On Dec. 16. The new brewhouse took fire and much injury was done to it.

This brewhouse built in 1621 was the "common" brewhouse established for the maintenance of the hospital.

Sep. 4, 1623. This day we went for London, and returned 23 days after, having staid in London 16 days.

Travelling in the 16th and 17th centuries was a very different matter from travelling in the 19th. Few persons moved far from home in those days unless important business required their presence elsewhere, when they did so, before setting out on their journey and encountering the perils of the road, they generally made their wills. The dangers were very real ones; in the first place, the roads were infested with highwaymen who robbed and murdered travellers. An Act was passed in 1285 which ordained that highways between market towns should be widened, and that woods, dikes, and cover with 200 yards, on either side of it should be destroyed. The proprietor who neglected to carry out the provisions of the act, was held responsible for all felonies committed by persons who lurked in his coverts. This act made highway robberies less frequent—though it did not remove all danger from this source—highway robberies were still of frequent occurrence.

In addition to the risk the traveller ran of being robbed and perhaps murdered, by the way, was the scarcely less serious one of injury through the state of the roads. The country roads were mere tracks worn hollow by trains of pack-horses and mules, by which was the general mode of transport for goods. The highways between market towns were in scarcely better condition. Even between London and Westminster, lined as it was with stately mansions on each side, the road was worn into deep ruts and hollows which in wet weather became full of mud, in which pedestrians sank sometimes to the knees; and to render it possible for the royal carriage to travel safely over it when the sovereign attended parliament, these holes had to be filled up with fagots. Whilst the roads were in such a state, carriages were but little used. Queen Elizabeth's carriage sometimes became embedded in a mud

hole and her Majesty had to descend until it could be dug out. These were opportunities when young Raleighs might distinguish themselves.

The inequalities in the roads were a source of danger to horsemen. An archbishop not unknown to history, Archbishop Islip, met his death from this cause ; his horse put his feet into a mud hole, stumbled and threw his rider into it from which he emerged wet through, and the shock and exposure in wet clothes caused his death.

The roads being in such a state, progress was of necessity slow. Mr. Whiteway appears to have made the journey to and from London with tolerable speed. Deducting the 16 days passed in London, from the 23 spent from home, the seven days represents the time occupied in the journey to and from London—3½ days each way. It could be done as we shall see presently in less time by express. The diary continues :—

“ There came news of the Prince, his arrival at Portsmouth, and ballads were made of it, but it proved false ; the ballad singers were sent to prison. While we were there a man ready to be buried revived, and lived half a day.” A later entry in the diary states that “ the Prince with the Duke of Buckingham arrived on Sunday, October 5th. There was great joy and the great pieces were shot off twice in Dorchester (so Dorchester must have been fortified at this time and armed with cannon.

1624. On March 31, “ A Committee was chosen for the new England business at the free schole. Sir Walter Erle (Governor), Mr. Humphreys Esq (Treasurer), Sir Richard Strode, Sir Anthony Smitheys, Mr. John Brown, Dr. Bradish, Mr. John Keate, Mr. Giles Greene, Mr. Ed. Clarke, Mr. John Hill, Mr. William Derby, Mr. James Gould, William Whiteway (jun.), Mr. William Mainford.

The new England business resulted in the settlement of a colony, who founded Dorchester in America.

March 29th. “ The Earl of Dorset died and the Earl of Oxford broke his arm at Tilt.”

The age of chivalry had declined, but the joust and tournament survived to this date as a spectacle and exercise, though little danger attended it. In the reign of Queen Elizabeth an annual exercise of arms was appointed. This was held in Queen Elizabeth’s Tilt-yard, round which galleries, decorated with cloths fringed with gold, were erected for the spectators. The combatants were dressed in armour, which was

richly engraved and inlaid. The Queen attended with her maids of honour and courtiers; and the whole scene presented a gorgeous spectacle. The combats were rather a display of horsemanship and skill in the use of the lance than serious engagements. In preparing for this and similar spectacles the knights and nobles practised by tilting at a ring, or at the *quintain* in some other form. It was presumably in this exercise that the Earl of Oxford met with the misfortune which Mr. Whiteway records.

April. The end of this month my Lord Digby, Earl of Bristol, came home out of his long embassage in Spain. The Countess landed at Weymouth.

The 28th of April this year Co' James Gould was married to his wife at Bloxworth, and the next day brought her home.

Sept. 1. Sir Robert Mellor died at the Bath, and was buried at Came at midnight, Mr. Guy preaching.

“ The tomb and effigy of Sir John Mellor, his father, will be found on the north side of the chancel of Came Church. The memorial to Dorothy Mellor, wife of Sir Robert Mellor, on the south side of the chancel.

It was a custom for some hundreds of years and up to the beginning of the present century for persons of wealth and position to be buried at midnight by torchlight.

Andrews, in his “ Curiosities of the Church,” states that at the funeral of the Earl of Northumberland in 1489 many thousands of torches were carried.

It is possible that the practices of burying suicides at night, and criminals executed for murder in cross roads at midnight with a stake driven through them, may have brought the custom into disrepute.

7th of this month 6 houses were burnt at Poole about midnight and a day before one house at Blandford.

Sep. 26. Co. James Gould the younger was married at Exeter to Mr. Marshall's daughter.

Oct. 2. This night there was an extraordinary storm of rain and wind which blew down many houses and threw many great trees and cast away many ships in all parts. Amongst them were four at Melcombe two of these were Frenchmen; there were eleven Frenchmen drowned in the same.

“ Mr. Matthew Pitt, of Weymouth, died in London the 18th April, and was buried there by night, two days after; in his place

was chosen, the 10th of May, Sir Thomas Middleton, Junior, of London."

February. "Captain Thomas Hayne left his band of men and Maximilian Mohun succeeded him in that place. He held not and so Captain Gould had it."

Feb. 13. "Mr. Robert Coker Esq. died suddenly at Church at evening praise."

1625. The diary relates that King James died on March 27th at 3 o'clock of raging fever "the news reached Dorchester 48 hours after his death when Prince Charles was proclaimed by the town clerk."

"This spring the sickness began to spread in London." Aug. 18. "The sickness was at its height in London, for that week died 5205 in London and its liberties ; in Westminster and Stepney 4000 ; but afterwards it began to decrease in London." The diary states that it spread to Oxford and other towns. "In Dorsetshire were dead, one at Sherborne, and three at Moreton ;" Yetminster was infected as well as Martock and Bridgewater, and "it reigned grievously at Exeter all the summer."

Oct. 26. The weekly fast on Wednesday which began 20th July ended in Dorchester this day ; a contribution was made by the town "for the relief of Exeter, which was in great need through the sickness ; for many weeks 100 and 150 died weekly of the sickness. £40 was sent to Mr. Ignatius Jordan, who was left alone in the city (Exeter), all the other magistrates having fled."

1626 Jan. 3. I. W. W., was chosen steward of the Hospital in the place of Mr. Toope, and George Gould was chosen governor in the place of George Way."

This Hospital must not be confounded with the old foundation of S. John Baptist, which was dissolved many years before. This building stood at the lower end of South-street on the west side ; it was "founded by free and voluntary gifts of persons of divers persons which it pleased God to stir up by the motion of Mr. White, minister of the word." The Hospital was built in 1616 ; fifty poor children were received and educated in "some lawful trade." Mr. Whiteway contributed largely. The building was afterwards converted into a workhouse."

"The 17th of January here was held an extraordinary commission for the tryal of some soldiers in which Sir Francis Ashley sat judge, and condemned seven soldiers and one tapster to death for burglary, but six of the soldiers had a pardon."

Feb. 3. "This day the mariners of the King's ships assembled in great troops and marched furiously through London to White-hall and demanded pay with many threats against the Duke, insomuch that he was fain to muster the train soldiers of Middlesex, and put them in arms and yet give the mariners good words and their pay also to be rid of them."

"The 10th hereof four German gentlemen all of the Palatinate being banished for religion came hither for shelter and were entertained.

Dec. 10. "The sickness was suspected to be in the house of Paul, a hatter of this town, because three of his house died in fifteen days; and his house was shut up 5 or 6 weeks, but God be praised it was not so, but as it is supposed some pestilent fever."

The shutting up of houses supposed to be infected with the plague was one of the measures taken to prevent the spread of the disease. Watchmen were appointed to watch suspected houses, and prevent the inhabitants from leaving them and carrying the infection into the town. The healthy members of a household did not submit very readily to being shut up for weeks together with diseased persons, and conflicts frequently arose between them and the watchers in consequence. The watchers were sometimes authorized to inflict chastisement on unruly members of a household who would not submit to the regulation, and old accounts contain entries of small sums of money paid for whipping them.

"This winter the Church of All Saints in Dorchester was enlarged."

1627. There are not many entries under this year. It is noted that in April 500 died of "the sickness" at Salisbury and on May 20th "A woman was slain by mischance by a sledge (hammer ?) that one was casting which beat out her brains."

Sep. 8. "Woodbury fair at Salisbury was forbidden this year in regard of the plague at Salisbury, last year for Blandford and the year before for London."

Dec. 16th. "Mr. Jas. Whitefield was chosen parson of All Saints in Mr. Cheek's place.

1628, May 3. "The sickness brake out in Shaftesbury and in four other places thereabouts, but spread not far nor continued very long. There died not above 20 persons in all."

On June 21 "The new schoolmaster" came to town; Mr. Brancard's brother was chosen his usher.

June 13. "Dr. Lambe, the witch, was beaten to death in London streets by the boys and apprentices."

The London apprentices were a turbulent body of youths and full of mischief. At any time a cry of "Apprentices and clubs" in the streets would bring them in troops armed with cudgels from their masters' houses of business. Often they were a trouble to the authorities; for two days in 1441 there was a hand-to-hand fight between the apprentices and the students of the Temple, which was only put down by armed force.

Who was this Doctor Lambe? Was he a white witch or conjuror—or was he a witch finder? If the latter he only met with his deserts. He was evidently something more than a physician who practised astrology, for most of the physicians at that time did as much; they would have received little patronage if they did not. We read of astrological doctors much later than this. (1) And what had Dr Lambe done to incur the displeasures of the apprentices?

Sep. "The 1st of this month the Lord Brook was stabbed by his man, and died thereof about a month after. His man having stabbed him killed himself also."

Sep. 8. "This day the fleet set sail from Portsmouth commanded by the Earl of Linsey and consisting of 160 sails besides preships (?) and resailers. They went to succor Rochelle, which was besieged by the French both by sea and land, and attempted to relieve it but could not get in for the "palissado" that was made by the French athwart the harbour. But the 20th Oct. the city was yielded to the king, and but 400 persons alive in it, 18,000 having died with famine."

(1) 1783, Dec. 8. Expenses on bargaining with conjuror from Skipton to cure Matthew Hudson's daughter . . . 1s.

1784, Feb. 1. Astrological doctor for Hudson's daughter . . . 12s. 6d.
Overseer's accounts Bramley near Leeds.

Sep. 3. "Mr. Bailiff appointed the Beadle to cut and carry away the corn that Fordington men had sown upon the Town walls."

October. "John Williams, of Herringston, Esq., was chosen to be captain of the horse for this division, instead of Sir John Miller."

The choice of John Williams, of Herringston, Esq., for the important post of captain of the horse of this division shows in what estimation he was held. Herringston House was a mansion house in the reign of Henry III. In the reign of Ed. III. a royal licence was granted to Sir Walter Herring to improve the place and enclose it with a stone wall, but the greater part of the present house was built by Sir John Williams in the reign of James I. It was built round a quadrangle, on one side of which was the private chapel and a burial chapel. These were pulled down many years ago. The most interesting features of the house now are the old dining-hall with the minstrels gallery and the old drawing-room with its coved and moulded ceiling, an excellent specimen of Jacobean moulded work. Upon the ceiling are represented the arms of the Williams, which are similar to those in St. Peter's Church, the arms of the Prince of Wales, with the initials of Prince Charles, the three Herrings of the Herring family, from whom it descended to the Williams; and there are mermaids, fit supporters of the Herrings, and the harts of the De la Lindes, of white hart celebrity, who intermarried with them.*

Nov. 20. "This day John Felton was condemned at Westminster, and hanged at Tyburn for killing the Duke of Buckingham."

December. It is recorded that the inhabitants of Gillingham forest in this month "rose up against those who were about to enclose it and misused the Bailiff and threw down their work."

* Coker, who was contemporary with Sir John Williams, says "Winterborn Harange, the seat in former ages of the ancient family of Harangs, from whom it took its name". . . . "by the co-heir of Sir Thos Delalinde Herringston fell to Robert Williams, father of Sir John Williams, a very worthy man and good patriot who by his building and other ornaments much beautified the place and commendable lived a faire age, left it to his grandchild John, the son of William, his Heire."

This year Sir George Trenchard kept a very great Christmas at Wolton (1) and on 12th day married his youngest daughter to Mr.

If Sir George Trenchard kept a very great Christmas at Wolton (1) in this year it must have been a very great one indeed ! for he was Sheriff of the County, and the leading man of his time in Dorset. The "very great Christmas" at Wolton must have troubled Master White, Minister of Holy Trinity, and Master Ben, of All Saints, who were calling upon their respective flocks to renounce all such vanities.

Feb. 28. "Mr. Richard Henning left the town."

1629. April. "In this month Mr. John Brown set up Mr. Hardy's monument in S. Peter's Church, but the town paid for it."

Aug. 21. "This day the wind was so high that it tore a coach all in pieces upon Eggardon Hill and beat out the brains of a serving maid that was in it."

26 January. "This night there were strange flashings of light seen in the sky, and the like on the 22nd February, which much troubled the King and the Court ; and the 11th February there was an earthquake perceived at the new Brewhouse.

The King and the Court being troubled at the appearance of the Aurora Borealis is a little amusing, but less was known of natural phenomena and their causes in those days than in these.

Aug. 3. "This day there was a foul outrage committed by the gentlemen of Lincoln upon a pursuivant thither, to apprehend one that killed one of the King's deer. They shaved him, snipt his ears, wash't him in the kennels, and kicked him out at the gate. The King took it much to heart."

This gentleman who killed one of the King's deer fared better than Sir J. Delalinde, who for killing a white hart belonging to King Henry III. in Blackmore Vale, was condemned, it is said, to pay a sum of money yearly into the King's treasury, and certainly white-hart money has been paid yearly by his successors up to quite recent times.

(1.) Coker speaks of the stream that "runneth by Wolton more truelie Wolverhampton, a fine and rich seate." "Sir Thomas Freeman, gracious with Henry VIII., was the chiefe Builder of the House, nowe the habitation of Sir George Trenchard."

1630. "The sickness began to increase in London and Cambridge and some other places. . . . An entry under date July 5 states that a collection was made in Dorchester for Cambridge, where the plague continued "very hot."

June 1. "This day was a private fast kept by certain persons for the turning away of the danger threatened narrowly the removing of Mr. White."

July 5. "This day the puppet players craved leave to play here in this town and had a warrant under the King's hand, yet were refused."

Was this the party of puppet players who got into trouble at Beaminster and were charged at the Michaelmas session at Bridport in this year with "wandering up and down the country with certain blasphemous shows and sights which they exercise by way of puppet playing to the great disturbance of the townsmen ? (1.) If so (and it seems probable from the date) their warrant under the King's hand did not prevent them from being ordered out of the county.

The influence of Master White and the Puritan party was increasing in the town. The Puritans held all stage plays and dramatic representations in abhorrence ; hence this refusal. Dorchester was not more favourably disposed towards puppet players after the Restoration, for, according to Mr. T. Hearn on "May 17, 1661, Richard Pavey, of London, of St. Giles-in-the-Fields, coming to town this day to shew a motion of the witches of the North, is told that we have noe waste money for such idle things and is denied to shew here at this perill." These puppet show plays were very favourite spectacles with our ancestors. They are of very early origin, and were at first exhibited by the priests and monks ; they were confined to religious subjects, being nearly allied to the "mysteries and pageants," notices of which so frequently occur and the history of which is so full of curious interest. During the rule of the Commonwealth they were strictly forbidden, but they sprang again into active existence immediately after the Restoration under the countenance and authority of the Master of the Revels—an office created by Henry VIII.*

(1.) Social history of the Southern Counties, Roberts.

* Andrews' "Curiosities of the Church," Roberts' "History of Southern Counties," and "Archæological Journal."

Nov. 8. "This time corn grew very scarce which was sold in our market for 8s. the bushel, in other towns of the county for 10s., and in the west country far dearer, by means of the last wet winter, which year there were commissioners sent down to the justices to command all men to bring to market a certain quantity. In this year Mr. Mayor bought up corn and sold it to the poor at 6s. 8d."

The practice of relieving the poor in times of scarcity by buying up corn and selling to them at less than cost price was not uncommon. The Mayor of Lyme entered in his account : 1587 Item that was lost upon 10 peck of rye, that was sold to the poor—4s. 6d.

1631, Jan. 24. "This day there was a mighty tempest at Weymouth with thunder and lightening. Eight men were dangerously hurt with it in the Pilgrim, and two slain."

1632, April 5. "The Archdeacon visited and Mr. Sacheverell preached." It is recorded of this year that "the winter season was very unhealthy by reason of the excessive rains in the autumn and winter, and little frost." Many deaths took place in the neighbourhood and it was wrongly reputed they died of the plague." On March 21, through the negligence of a cooper, there was a fire at Weymouth and Melcombe Regis, in which 2 houses were burnt.

1633. "John Paulit, of Hinton, came with his family to live at Stinsford for a while out of his love to the hunting of the "hair," which he much affects and in which this county excells."

Amongst the deaths which occurred in this year was that of Mr. Allen, parson of Abbotsbury, on May 5. Mr. Allen was drowned "as he was going into France to fetch home Sir John Strangwais his son, having a little before married his sister, Mrs. Manning."

June 11. "Mr. Thomas Newman and Mr. Robt. Angell came hither with their wives, and Co Peter Middleton, and staid here one week."

Dec. 29. "Mr. Mayor commanded the posts to be cut down, which those of Fordington had put up at the inner end of . . . Lane."

April 12. "About this time the King granted a monopoly of coaches in London, who for a set fare carried all passengers up and down London streets to the great vexation of the waterman who many times fell by the ears with those new coachmen in the streets."

In consequence of the wretched condition of the streets of London which has been the subject of a previous note, persons going from one part of London to another as much as possible avoided the streets and made use of the river ; and the waterman in consequence had plenty of employment. The improvement of the roads and the establishment of public hackney carriages was a serious matter for them, as it threatened to deprive them of their livelihood ; hence those disturbances.

17th. "Mr. of Marshwood Vale, and many others set sail from Weymouth towards New England ; and the 29th of the same Mr. John Humphreys, with his wife the Lady Susan, set sail likewise for the same place. This summer there went over to that plantation at the least 20 sail of ships and in them 2,000 planters."

July. "The reading of the King's books for recreation on Sunday was eagerly urged in Somerset by the Bishop of Bath and Wells and in the Diocese of Winchester ; and divers ministers suspended for refusing to read it. They all appealed from the B.B. to the delegates."

The Bishop of Bristol and the Chancellor urged Mr. White to read it before the Archbishop's visitation, and upon his refusal the churchwardens, in his absence, procured Mr. Holiday to read it on a Friday morning, 11 July, no one being then at church but he and the clerk and the churchwardens. When Mr. White heard of it he was exceedingly angry. It was read in St. Peter's Church. Mr. Ben refused utterly to read it."

July 23. "Co William Gould shooting London Bridge the boat was overturned and two of his companions drowned. He was in great danger himself."

July 28. "Mr. Strong, a Fellow of Catherine Hall, in Cambridge, was accused by one of his companions for scandalous words

spoken against the present Archbishop of Canterbury and the late Archbishop of York, for which he resigned up his fellowship to the house, and another was chosen fellow. He shortly after married a rich young widow in Cambridge, being employed by Mr. Goodwin to court her for him, and in November following Mr. Turchin removing to Charminster, he was by Mr. Pitt settled in the vicarage of Fordington."

August 6. "This year Mr. White left off the celebrating of the anniversary of the great fire which happened anno 1613."

The pamphlet "Fire from Heaven" gives the same date as this entry, and both together fix the date of the great fire which Hutchins considered was uncertain.

Aug. 29. "This day the town of Bere Regis was burnt, the most part of it to the ground, with great quantity of corn. The loss is valued at 20,000 pounds. The country sent them in about £500 speedily to relieve their present want. Dorchester sent them in about £40."

Under the date Sep. 9 we read "The King made a monopoly of soap, forbidding all other to be used," but the soap made by the Patentee was so bad that "many refused to use it," and in the end the patentees had to compound "with the soap boilers of London, giving them leave to use their trade" upon allowing them a fixed sum on every barrel of soap made.

The granting of monopolies was a source of revenue to the Sovereign and a convenient mode of rewarding services, but it was most injurious to trade and to private enterprise, by which trade is fostered. Any article which obtained a ready sale was liable to be made a monopoly of, and the patentee either manufactured it himself and thus disestablished all the manufacturers in the kingdom, or he allowed them to continue their trade on payment of a royalty to him.

"Gresham, who saw the evil of the system, advised Queen Elizabeth to give up these monopolies, but the evil was too lucrative to be readily surrendered," and to the injury of the trade of the country it continued to a much later date. The picture suggested by Mr. Whiteway is ludicrous. The King, finding soap more largely used by his subjects, granted a monopoly of it. The patentee having no knowledge of the

business made a very inferior article which the people in dudgeon refused to use. What they did without soap is not stated, but in those days cleanliness was next to godliness. The patentee finding his patent rights of no use to him was obliged to allow the soap boilers to exercise their trade on paying a royalty on each barrel of soap made.

November. "Sir John Strangwaires desiring to keep his Christmas in London desired leave of the King by the Earls of Dorset and Holland, but the King refused them and enjoined him to return and keep house in the country."

1634, Jan. 1. "The 9th of this month Mr. White began to expound the Scriptures in Trinity Church every Friday at 10 o'clock."

Feb. 16. "This day with running up a steep place of Pombery I fell into a shortness of breath with extreme soreness."

Mr. Whiteway's sister died of consumption on Dec. 10, 1629, and there seems little doubt as to the cause of the "shortness of breath and extreme soreness" from which he suffered. There are very few more entries, and the diary comes to an abrupt conclusion on March 22nd.

THE GREAT FIRE OF DORCHESTER, A.D. 1613.

In making some cross references in the British Museum Library I happened to light upon a book (Press mark c. 27, b. 36) entitled "Fire from Heaven," which contains an account of the disastrous burning of the town of Dorchester in 1613, to which event the foregoing diary of William Whiteway refers. The account seems to have been written by an eye witness, and as it was published certainly within five months of the date of the fire its accuracy may be relied on. No other copy of the pamphlet is known to exist, nor is there any other contemporary account of the fire, though an extract from this account has been met with.

Possibly this copy of the pamphlet has escaped the observation of local historians through there being no reference to it in the catalogues connecting it with Dorchester.

The general title of the book is

FIRE FROM HEAVEN

*Burning the body of one John Hitchel of
Holne-hurst within the parish of Christchurch in the
County of Southampton the 26 of June last 1613 who
by the same was consumed to ashes, and no fire seene, lying there
in smoaking and smothering three dayes and three nights not to
be quenched by water nor the help
of man's hand*

Written by John Hilliard Preacher of the word of life in Sopley

READE AND TREMBLE.

*With the fearefull burning of the towne of Dorchester
upon Friday the 6 of August last 1613*

*Printed at London for John Trundle and are to be sold
at his shop in Barbican at the signe of nobody 1613*

The first pamphlet is headed:—

*“Fire from Heaven or a Trumpet sound
ing to judge
ment calling us to re
pentance by the feareful
and lamentable burning of John Hitchell Carpenter
to ashes together with his house and one child
and the grievous scorching of his wife by
lightning, as also by the burning of
another house sithence, and the
birth of a monster, all within the
Towne and Parish of
Christchurch in
Hampshire.*

The title of the second pamphlet, which is in black letter, is as follows:—

*Hereinto is anexed
the lamentable and fearefull burning
of the towne of Dor
chester, upon the 6 of August
last 1613.*

" If this dolorous discourse aforesaid of God's fiery judgement (written by Master Hilliard) late hapning in Hampshire, have any whit penetrated the reader with remorse I am here presumingly bolde (withou ut disparagement to the author) to adde unto his booke a second sorrow to our country, a sodaine calamity late befallne upon the towne of Dorchester in the west of England ; the heavy newes whereof, even strikes trembling hearts of people, that so famous a towne, and the onely storehouse of those parts for marchantly commodities should in lesse than four and twentie houres be ruined by this great commanding element, consuming fier.

Dorchester (as it is well known) is one of the principall places of traffick for westerne merchants, by which means it grew rich and populous, beautified with many stately buildings and faire streetes, flourishing full of all sorts of tradesmen and artificers, plenty with abundance revelled in her boasom, maintained with a wise and civill goverment, to the well deserving commendation of the inhabitants : but now marke how their golden fortunes faded and their cheerful sunne of prosperitie eclipsed with the black vale of mournfull adversitie : for upon the sixt of August last being Friday, this then flourishing Towne of Dorchester, about the mid-day flourisht in her greatest state, but before three of the clocke in the afternoone, she was covered with a garment of redde flaming fire, and all their jolity turned into lamentation.

This Instrument of Gods wrath began first to take hold in a Tradesmans worke-house : for a Tallow Chandler there dwelling, making too great a fire under his kettle or lead, tooke holde upon the melted and boyling tallow in such violent manner, that without resistance it fiered the worke house, and immediately one roome after another, till the Chandlers whole building was all on a light burning flame.

Then began the cry of fier to bespread through the whole Towne : man, woman and childe ran amazedly up and downe the streetes, calling for water, water ; so fearefully, as if deaths trumpet had sounded a command of present destruction. Many were the

affrights of the inhabitants, amongst which next unto the Chandlers house (then all on a fier flaming) was a Warehouse of Gunpowder filled into barrells belonging to a marchant of the towne, which to preserve they much adventured, and with wet sheets and other linnen saved the house from burning till they had caried the powder safe into the fieldes, otherwise taking fier it had bene sufficient, with one blast to have blowne up a whole towne, with all the inhabitants therein remaining, but God be praised it was preserved, and not one living creature therein perished.

The fier as I had said before began betweene the houres of two and three in the afternoone, the winde blowing very strong and increased so mightily, that in very short space, the most part of the towne was fiered which burned so extreamely, the weather being hot and the houses drie,* that helpe of man grew almost past, but yet as in such extremities, people will shew their endeavours, so these amazed townsmen strived to succor one another, but to small purpose, for the tyranous fier had taken too great a head, and likewise there was too much want of water.

The reason the fier at the first prevailed above the strength of man, was, that it unfortunately hapned in the time of harvest, when people were most busied in reaping of their corne, and the towne most emptyest: but when this burning Beacon of ruyne, gave the harvestmen light into the field, little booted it them to stay, but in more than reasonable hast, poasted they homeward not onely for the safeguard of their goods and houses, but for the preservation of their wives and children more dearer than all temporall estate or wordly abundance.

In like manner, the inhabitants of the neighbouring townes and villages at the fearful sight red blazing eliment, ran in multitudes to assist them, proferring the deare adventure of their lives to oppresse the rigour of the fier if possible it might be, but all to late they came, and to small purpose, shewed they their willing mindes, for almost every streete was filled with flame, every place

* The houses were mainly timbered and half-timbered houses.

borning beyond helpe and recovery, their might they in wofull manner behold marchants warehouses full of riches commodities, being shops of silkes and vellvetts on a flaming fier, garners of breade corne consuming, multitudes of Linnen and Wollen Clothes burned into ashes, Gold and Silver melted with Brasse Pewter and Copper, tronkes and chestes of Damaskes and fine linnens with all manner of rich stuffes made fewell to increase this universe sole conquerour, which leveld and made wast of all things it laid hold of, the fiercenes of the fier was such that it even burnet and scortht trees as they grew, and converted their greene liveries into black burned garments, not so much as Hearbes and Flowers flourishing in Gardaynes but were in moment withered with the heate of the fier, many living creatures as house, Sume, pollayne and such like at this wofull time were consumed into ashes to the great grieve of the beholders, was it not a sorrow for a tradesman to see all his estate burning at one instant, which he had laboured for twenty yeares before, was it not a sorrow for a man to rise rich in the morning, and to be brought unto poverty before night, and was it not a sorrow for parents, to see the portion of their children thus consumed, Oh grieve, upon grieve; when this burning invader comes, he shewes no pitty, he spareth neither rich nor poore; the rich he makes poore, and the poore most miserable. Dorchester was a famous Towne, now a heape of ashes for travellers that passe by to sigh at: Oh Dorchester wel maist thou mourne for those thy great losses: for never had English towne the like unto thee: the valew by the judgement of the inhabitantes, without partiallity, is reckoned to come to two hundred thousand pounds, besides wel neere three hundred houses, all ruynated and burned to the ground: only a few dwelling houses that stand about Church was saved, and withall the Churche by Gods providence preserved for people therein to magnifie his name: All the rest of the Towne was consumed and converted into a heape of ashes: a loss so unrecoverable, that valesse* the whole

* Query: vnlesse=unless.

land in pitty set to their devotions, it is like never to reobtaine the former estate, but continue like ruined Troy, or decayed Carthage. God in his mercy raise the inhabitantes up againe, and graunt that by the mischance of this Towne, both us, they, and all others may repent us of our sins. Amen.

FINIS.





Wareham: Its Embasions and Battles.

By MR. GEORGE J. BENNETT.

COULD any historian have written of prehistoric ages there would have been thrilling records of formidable beasts and cold-blooded reptiles roaming at will in our neighbourhood, and gigantic creatures swimming in the seas off our coast. Nature has such a wonderful book of records as no scribe ever attempted, and, whatever the simple lover of Nature or the man of learning by diligent study and searching have discovered and extracted from her marvellous museum, thereby adding to his store of knowledge, the stores of her treasure-house have been by no means diminished.

“Bones, teeth, and tusks of the mammoth” have been, Mr. Hall informs us, found in the hills and valleys of Dorset. Lewis, writing of the discoveries in Purbeck, mentions a “large vertebræ of the iguanodon; a fragment of a femur, bones of large and small crocodiles, of the plesiosaurus, and of various reptiles.” “Gigantic saurians,” writes the Rev. E. D. Burrowes, “swam in the ancient Kimmeridge seas, and the discovery of the humerus of a terrestrial saurian at Kimmeridge, vying with the iguanodon in size, shows that these seas received the drainage of a country on whose vegetation animals such as the one whose relic now lies on the

shelves of the British Museum used to roam." But these stupendous creatures became supplanted by a being of nobler creation, that extraordinary creature, man, whom wise men have endeavoured to describe and failed. A faithful picture of one of our British ancestors, wild and savage, exhibited in all the glory of his native war paint, would, in all probability, shock our sensitive feelings in this age of enlightenment ; the luxuriant crop of tangled golden hair, fierce moustache, deep blue eyes, the huge limbs stained and partly covered with the skins of beasts, the gigantic figure when armed presenting an uninviting, nay more, a repulsive appearance, formidably antagonistic to the Roman invader. But they exhibited some splendid acts of bravery.

As man became enlightened he recorded many transactions. Nature also retained silent, but stubborn, evidences of invasions, massacres, sanguinary conflicts, of devastation and ruin. Abundant evidences exist on every hand to show where the great war wave has at intervals swept across the broad acres of our county, where constantly, as Sir Walter Scott wrote :—

“ Trumpet and bugle to arms did call.”

Dorset was in “ye ancient tyme” frequently invaded, and to Wareham especially the words uttered by Macbeth were often singularly appropriate :—

“ Hang out our banners on the outward walls ;
The cry is still ‘They come.’”

But the residents have proved themselves equal to an emergency ; the loyalty of the county became manifest as the alarm was raised, and the great army of volunteers showed that “Barkis is willin’” by their ready response to the call of duty. Both appropriate and prophetic, aye more, events have proved the truth of the remark made by Posthumus in Cymbeline, Act v., Scene 2 :—

“ Our Britain’s harts die flying, not our men.”

Britain, it is asserted, was known to the Phoenicians, who are said to have “monopolised the tin trade,” but concealed the part from whence they procured it so carefully that there is an account

in Strabo of a merchant bound to these islands, who, observing he was followed by a Roman ship, sunk his own vessel to prevent discovery. We learn from Hutchins that "Divitiacus, king of the Sueffones, 25 years before Cæsar's coming into Britain and about 80 before Christ, obtained possession of those parts of Dorsetshire not already included in the list of his dominions. Prior to the Christian dispensation there had been, according to Collier, some advance made towards civilization in Southern Britain, so that, though Britain was regarded by the Roman nation as beyond the limits of the known world, it did not lie in the dim mists of obscurity as was imagined.

Julius Cæsar, the great Roman general, was probably the first who attempted an invasion of our land ; but the first attempt was a failure—the Britons assembled in such numbers and "looked so fierce, that the Romans were frightened and sailed away." This statement need excite no surprise. The Britons were, however, not always so successful, nor were they subdued without desperate efforts. "We may fairly conjecture that the victorious eagle neither seized nor kept her prey without the greatest difficulty." The skin-clothed untrained troops fought desperately to defend their possessions, proving formidable antagonists in their endeavours to repel the invaders ; nevertheless, they were no match against a legion of well-disciplined men, used to hardship, skilled in military exercises, and stimulated by conquest. But the undaunted courage shown compensated in some degree for their lack of discipline, and the vigorous efforts to withstand their assailants were undiminished by frequent defeats. Minds far more civilized and enlightened than the noble, brave, and haughty British king, Caractacus, would have wondered as he marched loaded with chains through the streets of Rome what the wealthy Roman Emperor envied him in his island home.

The Britons evidently made some efforts for coast defence in the neighbourhood. "About a mile E. of Lulworth and in that parish, on the top of a very high hill, E. of the Creek, and on the west point of the hills, that runs hence to Corfe, is a fortification;

surrounded by three ramparts and ditches, its area being about five acres. It has two entrances, one on the S.-E. and the other on the S.-W. The ramparts are very slight on the S. next the sea, where the cliff is almost perpendicular. Its shape is an oblong square . . . Mr. Aubrey calls it a British camp." This theory is supported by Lewis, who, writing of the discoveries in that neighbourhood, mentions the "rude urns, trinkets, &c., supposed to be British from the coarseness of the urns and the absence of all Roman relics. The Nine Barrows near Corfe are supposed by Hutchins to belong to the British period; also the Hælig-Stan or rock altar; and the pits found in Dorset, for instance Piddleton Heath: these he supposes to have been places of sacrifices. The pits might, however, have been used for storing treasures from the enemy and also as places of imprisonment. It is stated on the authority of Diodorus Siculus "that criminals were kept underground for five years, and then offered up as sacrifices to the gods by being impaled and burned in great fires along with quantities of other offerings." In Corfe Castle, p. 81, there is a full description of a sacrifice offered on the Hælig-Stan. The British had great regard for the eagle. Readers of Shakespeare will have found in his Cymbeline, Act v., Scene 4, that Jupiter is made to descend sitting upon an eagle; and this royal bird is also mentioned in the prophecy relating to Cymbeline, King of Britain. The oldest town in Dorset appears to be 'Sceaftsbyri,' or Shaftesbury. In Drayton's Polyobion there is a remarkable prophecy, said to have been uttered by an eagle at the foundation of Shaftesbury. "This eagle, whose prophecies were as famous among the Britons as the sibylline among the Romans, foretold of a reverting of the crown, after the Britons, Saxons, and Normans to the first again, which was fulfilled in Henry VII., son of Owen Tudor." "The origin and derivation of the name of this town has given rise to much conjecture; it being supposed by some to have had an existence even prior to the birth of Christ, and to have been called 'Caer Palladur' by the Britons." Mr. Barnes, the Dorsetshire Poet, wrote of Paladore and the Stour, to which river Drayton also refers.

Those interested in the superstitions of Dorset are aware that the great storm of January 10th, 1505, which caused Philip, King of Castile, and his Queen to pay an involuntary and unexpected visit to Dorset—an event which caused some warlike commotion—is also said to have blown “downe the Golden Eagle from the spire of Pawles, and in the fall it fell upon a syne of the Black Eagle which was in Pawles’ Churhyard.” This was regarded “as an omnicious prognostike upon the Imperiall house.”

From its name Durnguies, Wareham is conjectured to have been a British town, probably one of the 20 destroyed. The rude arms of the Britons had defended, but the fine steel of the Romans had conquered, and the standard on which the eagle was emblazoned was probably the first which floated above our ancient town. When the Roman “senator, Aulus Plautius, with four legions and some cavalry” were subduing the dominions of Caractacus to Roman power, “the great Vespasian was summoned to the war,” and this General is stated to have conquered Britain south of the Thames. “He had frequent conflicts with the enemy,” writes Hutchins, “and the many camps in this and the neighbouring counties are monuments of his glory and success, so that we can scarce doubt but that this was the theatre of his actions. Concerning Wareham as a Roman town Mr. Bellows writes :—

“We are now able to trace with tolerable certainty :

(1.) That the Claudian invasion in the year '43 was made, not as many suppose in the same part of the coast as Julius Cæsar's, but from the mouth of the Rhine to Southampton and Poole Harbour.

(2.) That Wareham was walled in by the Claudian forces on landing. It has been disputed in the past that the Roman earth-walls were Roman at all, but I need only mention two items to show that very strong evidence exists in proof of this origin.

(a.) The area of Gloucester, which was built by the II. legion, and to contain that legion is in round figures two million of square feet. The force that was under Vespasian at the landing at Poole

was two millions, and the area of Wareham is just under four millions of square feet.

(b.) The lie of the principal streets in both Gloucester and Wareham is the same, not only the four main ones, but the smaller cross streets in the N.W. angle especially.

(c.) The streets and blocks in the *Castra Pretorsana* at Rome, built in the reign of Tiberius, correspond precisely with the ones I now refer to in Wareham and Gloster."

We are indebted to Mr. Bellows for valuable light on this subject, and much in the locality supports his theory. According to Hutchins, Poole, as a town, was not known in the British, Roman, Saxon, Danish, or Norman periods. He acknowledges the existence of a Roman road or way to the bay, and adds "This may be an argument to prove that the Romans used this spot as a convenient landing place. In the middle of the North Wall there is an extraordinary opening ; the north entrance to the town, probably not natural. From the top of North-street the descent is very rapid ; the ascent east and west on either side, where roads are cut from the bottom by which the wall on either side is gained, is very steep, but it will be observed that the tops of these ascents, as well as that leading into the town, are about level. From the top of North-street there is a gradual decline to the river (once sea) at the bottom of South-street. An investigation of the locality suggests the probability that :—

(1.) The foundation of this was originally a straight, natural wall or bank of earth with the sea at its base. On this what is known as the North Wall was erected.

(2.) That the Romans saw the advantage of an opening and cut it. Prior to this an entrance would have been made by the more shallow water east and south of the town.

The cutting would afford employment for the Roman soldiers, whilst the earth from this opening and from the remarkable ditch at the base of the West Wall would have provided much material for the erection of the earthworks which partly surround the town. If the enormous quantity of earth removed herefrom was actually

so employed, then the reason is clear why Wareham was fortified by earthworks, and not, like Dorchester, with stone walls. But it must be remembered that inside the North Wall is a high level ; the great height of this wall is from the outside. The opening was probably made the important entrance to the town, and it is a reasonable conjecture that through massive gates communication was made with the Roman stations and camp beyond. There is no better point from which to realise Roman Wareham than from the Wall, and no better place to contemplate this Wall than from the causeway, which was doubtless made when the sea retreated, and by which the town is approached. Of this Wall anon, when we consider Hutchins' theory that the earthworks were thrown up by the Danes. We have made no bold assertion, but offered a suggestion worth consideration, and which probably might contribute towards a solution of the problem concerning the date of Wareham Walls. The ancient records of the town were stolen and destroyed, and this calamity is deeply to be deplored. The principal streets of Wareham lie north, west, east, and south, and so form a cross, and an investigation of the north-west angle will disclose three distinct crosses in that quarter of the town. Wareham was destroyed by a great fire in 1762, when unfortunately the ancient registers of the churches were destroyed ; but that it was rebuilt on the original plan may be proved by reference to the map.

Concerning the Roman name of Wareham there appears some doubt. "Mr. Baxter, with whom Dr. Stukely concurs, will have it to be the Morionium, or Moriconium, of Ravennas." This is contradicted by Mr. Warne, who writes : "Neither do I hesitate in awarding to Hamworthy the true site of Moriconium, which has hitherto been assigned to Wareham."

"The Icknield street ran from Yarmouth to Land's End," passing through Dorset and somewhere north of Wareham. We gather from Ancient Dorset, p. 181, that a Vicinal Way "leaves the Via Iceniana at a point about a quarter of a mile north of Bad Bury ;" and it should seem that one of these Ways terminated at Hamworthy.

Regarding a causeway in the vicinity of Badbury, it is remarked on p. 181 : "If this ever was the work of the Romans, we are at a loss to know whither it led, as no signs of it are visible on the other side of the camp ; but the most probable place for its destination was Wareham." From our point of vantage ground, Badbury, where we have seen the Icknield Street existed, the military station of Vindogladia, or Wimborne, and Hamworthy (Vespasian's supposed landing place) lay on our right. From Badbury to the great military station of Durnovaria, or Dorchester, which lay on our left, would be almost a straight direction past Wareham. In tracing the Vicinal Ways at Dorchester Hutchins discovered one passing from that town east towards Wareham ; but Hutchins, Mr. Warne observes, "does not seem to be aware that this portion of the way he has been describing is actually the *Via Iceniana* itself." A portion of a way or road exists in Wareham Common, and a visit to the Walls will doubtless throw some light upon the subject and elicit opinions from those competent to judge. We may gather from this, that if not actually on, Wareham was in direct communication with, the Icknield street. About two miles north of Wareham is a place known as "Cold Harbour ;" places thus designated are found, Mr. Warne says, "Almost always on Roman sites and near old roads."

Six miles north-west of Wareham is Bere Regis, a Roman station, situate between Vindogladia and Durnovaria, and which is, according to Hutchins, the Ibernium of Ravennas. "This is confirmed by the great and elegant Roman camp upon Woodbury Hill, which was the *castra stativa* to the town near which the road passed." Sports were essential to the Romans, both civilians and soldiers ; hence the reason for the erection of the amphitheatre near Dorchester. In considering the Roman towns, "the situation," observes Hutchins, "ought also attentively to be considered, if it be on or near the Roman road, or the confluence of two rivers, which last they particularly delighted in." The situation of Wareham was doubtless appreciated. Dr. Stukely attributes the original castle at Wareham to the Romans ; but this was probably a delightful

residence at the water's edge, commanding exquisite scenery, rather than a place of defence. The position of Wareham is worthy of remark. In a paper read at the Archæological Congress, 1871, Mr. W. H. Black, F.S.A., stated that "Wareham stood, and was designed to stand, in a position equi-distant from two geographical points—*i.e.*, the North Foreland in Kent and some point in Cornwall. Accordingly, he drew lines on a map, and perceived that a straight line drawn from the North Foreland, through Wareham, nearly reached the Land's End—apparently the Logan Stone on the south side of the peninsula of Cornwall. But what was the most observable was that the distance from the North Foreland to Wareham was the same as the distance from Wareham to the Lizard's Point, the most southern point of Great Britain."

The Emperor A'drian, by his visit to Britain, accomplished much in the way of reconciliation between the Britons and the Romans, but Agricola, an experienced commander under whom Dorset benefited, did much to enlighten the natives by initiation into Roman customs and manners. As Blomfield observes, the Roman invasion was productive of two great events : the propagation of our holy religion and the civilisation of the people.

"Constantius," writes Hutchins, "died at York, and Constantine his son was proclaimed Cæsar by the army in Britain, and under his reign Christianity flourished here as it did throughout the Empire." The discoveries at Frampton in the reign of George III. substantiate the statement. The discoveries in this neighbourhood have proved the extent of the areas ; the discovery of a few Roman coins is recorded by Hutchins, but probably the Roman road, the conjectured Roman altar found north of Wareham, the Roman pavement at Furzebrook, with other relics in Purbeck, may yet contribute something towards gratifying the insatiate taste of the antiquary. The Roman commanders were withdrawn from Britain, the Roman power relaxed, Dorset was invaded by the Saxons, and the standard of the Golden Dragon supplanted the Roman Eagle.

Probably the first Saxon invasion of Dorset was by "a Saxon pirate, who, A.D. 501, landed with his two sons Bieda and Mægla,

from two ships at Portsmouth, and possessed themselves of this shore." The first battle in the immediate neighbourhood was probably that recorded by Camden as having taken place at Bindon, Saxon Beandun, "where Kinegils, A.D. 614, beat the Britains in a battle, the success of which was long doubtful. In the Saxon age Wareham was a noted town, and the importance of this strong fortress of the West Saxons was recognised by friends and foes. But her season of prosperity was brief, for Wareham was continually harassed and assaulted by the Danes. In the year 789 the Danes, according to Hutchins, first invaded this kingdom, landing at Portland, but Matthew of Westminster puts this event A.D. 791." The next invasion of importance was A.D. 833, at Charmouth. According to Matthew of Westminster, King Egbert marched against the invaders with the whole force of the county, and amongst those slain were Dudda and Osmond, two earls, and the Bishops of Winton and Sherburn. Following this there were repeated attacks, and *Æ*thelhelme, who is described by Hume as the governor of Dorsetshire, and to whom Hutchins says the county gave the title of earl, was assiduous in his endeavours to prevent their landing. Notwithstanding, in the year 840, Dorset was again invaded, and, the county being aroused, King Ethelwolph himself led his troops to the attack, but after a bloody and obstinate engagement the Danes were victorious. The battle axes and spears of the Saxons resisted the encroachments of the Danes till the unfurling of the standard had lost its charm and the call to arms was unrecognised. Here we see a reason for the little opposition offered at the Danish invasion of Wareham. "Thus it came to pass," writes Collier, "that when Guthrum, a Danish chief, made a descent upon Wareham, in Dorsetshire, only a few dispirited men could be gathered round the banner of the Golden Dragon. To fight was useless or impossible;" consequently the enemy obtained a complete victory. The Saxon Chronicler states that in the year 875 "three kings, Guthrum and Oskytel, and Anwind, went with a large army from Repton to Cambridge, and sat down there one year." The following year, 876, the army stole away to Wareham,

a fortress of the West Saxons, and which Hume says was the centre of King Alfred's dominions, and having surprised the town the inhabitants were driven away or plundered and massacred, and the whole town reduced to a heap of ruins." The destruction of the Nunnery followed ; the inmates of such houses were special objects of hatred to the Danes, and the riches accumulated therein was a guerdon for plunder, but why they persisted in the demolition of the Castle is a matter of surprise. It could seem but an empty honour to plant the Reafen in such a heap of ruins, but the mysterious raven which had been woven with such magic art, and made the subject of many a dark incantation, by its fancied movements, inspired confidence in the breasts of the invaders, who, stimulated by success, made strenuous efforts to secure the coveted possession which was to them of great importance. Their occupation of Wareham continued for about a year, during which period it was conjectured by Hutchins the Wareham walls were thrown up—we must not suppose anything like the stupendous fortifications they afterwards became, but of sufficient strength to afford protection, and also to defend a certain portion of Wareham admirably adapted to their requirements. There are no means of ascertaining the actual size of Wareham. The British name Durnguies is given "not as designating a town, but a tract of country." "The district," writes Mr. Warne, "which is called in British Durnguies, in Saxon Thornsæta, clearly referring to the country around and not to a particular place."

Without asserting positively that the Walls date from this period reasons are suggested which show that the theory is not improbable : earthworks belong to no particular period, there are specimens of British, Roman, and Danish in the neighbourhood ; the numerous tumuli around us belong to successive periods ; it is evident that tumuli were known to Josephus, and not used exclusively for burials. In the Saxon age, "the torch of war," writes Collier, "was carried through the land ; the Danes recoiling from the walls of the fortified towns, and never able to make any head against an army in the field ; but wherever they stayed

encircling their camps with great earthworks to form a central station, from which they ravaged all the surrounding country." Occasionally they had the mortification of watching from their entrenchments advantages taken by the Saxons, who were not slow to avail themselves of an opportunity. Supposing, then, that the foundation of the Walls be attributed to the Danes, much credit is due to them for the large amount of work accomplished in so short a time. According to Hutchins, ancient Wareham was rated at ten hides, and as the hide of the Saxon, like the caracute of the Norman, varied from 100 to 120 acres, we have another proof that Wareham must have been a considerable place. The enclosed area is estimated at about one hide, and there can be no two opinions the most important part was recognised and fortified. According to Dugdale, Henry II. confirmed by charter "one hide of land in Warham," which William de Waimuta had presented to the Abbey of Lyra. The advantage Wareham offered to the Danes was an excellent harbourage, affording every facility for landing and embarking ; whilst the high ground to the west afforded unusual opportunities for furthering their designs upon the kingdom of Wessex."

Eventually King Alfred marched with his troops to rescue the town from the hand of the enemy. "That prince so straightened them in these quarters that they were content to come to a treaty with him, and stipulated to depart his country." We gather from the Saxon Chronicle that the Danes took the oaths demanded by Alfred, delivered the required hostages from amongst their distinguished men, and departed from the fortress both by land and water. They are, however, accused of stealing the King's horses, and the treaty they failed to keep. When tranquillity had been somewhat restored Wareham regained some of its prosperity ; the ruined Nunnery is said to have been rebuilt by Alfred's daughter, and, with such a keen recollection of past events, it is reasonable to suppose that monarch strengthened its defences. The invasions continued ; for above two centuries Wareham has been described as a theatre of war ; the neighbourhood frequently presented all the terrific horrors of a gigantic battles field, and the earth continually

drained the blood of the noblest, bravest, strongest—the flower of the Saxon race.

Another reason now suggests itself for improving the Walls. The importance of Wareham was increased by the Mint, which Mr. Warne and Hutchins assert was established by King Athelstan, and that monarch, Camden informs us, appointed two mintmasters. At a sale of Mr. Warne's collection of coins, reported in the *Dorset County Chronicle*, May 30th, 1889, a Wareham coin of the reign of Athelstan realised £9 2s. 6d. In the reign of King Edgar the Wareham Mint was well worked, and in the reign of Ethelred "Wareham, as a place of mintage, was well represented." At the sale before mentioned a Wareham coin Ethelred II. realised £5 5s. Two pennies were struck at the Wareham Mint in the reign of King Canute. During "Harold's occupation of the throne . . . a coinage was carried on at Wareham." In the reign of William the Conqueror there was an extensive coinage, "about forty-seven pennies," which varied, were coined at Wareham Mint. Money was also coined in the reign of William II. In the reign of Edward the Confessor the coinage was still continued. "The Anderbodes were a family of moneyers working under the Confessor, Harold II., and the Williams." In the reign of Henry the First Mr. Warne (to whom we are indebted for this information) states that "the coin of this realm was so debased by the moneyers, counterfeited by forgers, and clipped by others, that it became necessary to impose the severest penalties." "Henry's Mints were few and coins scarce." "I am not aware," writes Mr. Warne, "that he had any place of coinage in Dorset except Wareham, of which Mint Hawkins engraves a penny besides this I only know of two other pennies struck here, one by Sperravot, or Spertavot the other by Osmier." There is no evidence that the Wareham Mint was worked after this reign. From the mention of "Golde Court" in records appertaining to the Edwardian period it would appear that the site of the Mint was the block of buildings east of the quay between the South Bridge and the Priory. Henry II., according to Dugdale, confirms a present of gold (inter alia)

from William de Waimuta to the Abbey of Lyra, but there is no mention of a Mint. Neither in the lands and profits of industries in Wareham, presented by Hawis, Countess of Gloucester ; Galfred de Castello, Prior of Wareham ; and Robert de novo Burgo, to Bindon Abbey, to which house they were great benefactors. Having seen another reason why Wareham was continually "a bone of contention," we return to the invasions.

In 988 the Danes came by water and again attacked the town, and ravaged the country ; but the people were without a leader, and there appears to have been some negligence on the part of the Saxon authorities. After the dastardly murder of King Edward at Corfe Castle, Ethelred was crowned King of England, and he, amongst other idiotic actions unworthy his exalted station, bribed the Danes to cease their ravages. When he resolved upon a general massacre his acts of folly reached a climax ; the reception of the secret letter, said to have been delivered at Corfe Castle, and the barbarity with which the Danes were massacred at the base of the Castle, form a story of deep interest. Sweyne, King of Denmark, who is credited with demolishing the walls of Dorchester, and Canute, afterwards King of England, came, not to plunder, but to be avenged for the monstrous outrage ; and the revenge upon the unfortunate Saxons was not less cruel and bloody than the massacre. For a period "all Southern England was alight with the blaze of burning towns," and Wareham did not escape. Canute appears to have made Wareham his headquarters for awhile, penetrating by the river Frau to the heart of Dorset, then, after having plundered and destroyed Cerne Abbas, he returned to Wareham, sailing hence to Brownsea. The number of ruined houses testified as to how severely Wareham suffered ; St. Mary's seems to have been partially, the Nunnery wholly, destroyed and obliterated from the history of our ancient town. Canute, according to Hutchins, when he divided the kingdom, kept Wessex to himself ; and this would perhaps account for his seeking the seclusion of Shaftesbury Abbey in his declining days.

Norman power supplanted the Danish, and though a considerable portion of the town was in ruins Wareham was of sufficient importance to be among the manors retained by the Conqueror. A work of restoration was now commenced. Wareham Castle, the noted stronghold, was built, and Corfe Castle enlarged. Mr. Burrowes suggests the probability that "Durandas, upon whom William the Conqueror bestowed the Manor of Moleham, in Swanwie" . . . "was superintendent or master carpenter—what perhaps now would be called architect (?)—of the most important works at Corfe Castle, notably the Great or King's Tower; if not also of the works at Wareham Castle." "The re-erection of Wareham Castle added to the importance of the town, this stronghold being garrisoned by successive monarchs for various reasons. The Castle is stated to have been built by the Conqueror on a hide of land, for which he gave the Church of St. Mary of Gelingham, with its appendage, worth 40s., to the Abbey of Shaston." The site of Wareham Castle was at the south-west angle of the town by the water's edge, the portion of land actually occupied being estimated at about 20 acres; but the records concerning this transaction are somewhat conflicting. Kingstone in Purbeck, two hides of land in the parish of Arne, and a portion of Wareham appear to have belonged to the Abbess of Shaftesbury; and it is not improbable that these were amongst the lands King Alfred, "for his soul's health," bestowed by charter on that house. Saxon monarchs had the privilege of bestowing lands without the consent of the Witan and the Church of receiving and retaining the same without charter or deed of transfer.

By the untimely death of the Conqueror's two sons, the throne of England was again vacant, and Robert being in Normandy his younger brother made successful efforts to obtain the crown and power, which he assumed under the title of Henry the First. Apparently, Henry bestowed a portion of the Manor of Wareham on the then Earl of Leicester, for, at a later period, a descendant of that house, Earl Gilbert, established a claim to certain privileges,

amongst them the gallows, which he contended his ancestors had enjoyed.

In the reign of Henry Wareham Castle gained some fame as a State prison. Henry's brother, Robert, Duke of Normandy, attempted to regain his lost crown, and in his endeavours "Robert de Belesme, Earl of Shrewsbury and Arundel," was confederate. Tidings of the treason reached Henry, and in consequence the extensive possessions of Robert were forfeited and the offender banished from the kingdom. The English had invaded Normandy, and it is recorded that "In 1104 Henry I., who had overthrown his brother Robert and taken him prisoner in Normandy, sent him over to England and had him confined in the Castle at Wareham." Subsequently, Henry and Robert became reconciled, but it would be unreasonable to suppose that the breach between two such inveterate enemies could be healed. Notwithstanding, Robert spent the Christmas of 1106 with the King at Westminster, and by reason of a quarrel during that festival Robert again sought safety in flight. We gather from the Saxon Chronicle that in the year 1112 Henry, who was fighting in Normandy, "caused Robert de Belesme to be seized and put in prison;" and the following year, "in the summer, he sent hither Robert de Belesme to be confined in Wareham Castle."

Wareham Castle "was famous for the imprisonment and death of Robert de Belesme, Earl of Montgomery, who, rebelling against Henry I., he brought him from Reresburg, in Normandy, 1114 (?), (Hutchins) and committed him, sub arctissima custodia, to this Castle, where he starved himself to death. He was the greatest, richest, and wickedest man of his age. The time of his death is not mentioned."

At the death of Henry the Throne of England was usurped by "Stephen, Earl of Boulogne," a grandson of the Conqueror, and he having supplanted the rightful owner, a new series of calamities commenced—viz., a civil war. Wareham participated in this struggle, and again became a scene of bloodshed, misery, and ruin. King Henry's illegitimate son Robert was by that monarch created

first Earl of Gloucester. "He adhered to the Empress Maud, and brought her over to England 1138;" and in August of that year the struggle between Maud and Stephen commenced. Both the Empress and Stephen recognised the importance of Wareham, and the same year both Castle and town were taken by Maud's party. In the Earl of Gloucester the Empress found an able champion, who warmly advocated her cause, and directed her forces with great ability. In the fifth year of Stephen's reign, at which period Warinus de Liforiis, or Lifures, was Sheriff of Dorset, hostilities were resumed in the neighbourhood. Corfe Castle, that year according to Lewis, "was taken by Baldwyn de Redvers with a body of Normans;" but Hutchins asserts it "was delivered to him by the governor;" the King's efforts to retake it being unsuccessful. A reason now suggests itself for improvements in the fortifications of Wareham, as the struggle was growing more desperate. In the year 1142, "Stephen, having marched to Wilton with the design of there raising a fortress to check the garrisons of Wareham (and Salisbury) was attacked by Matilda's forces under the command of the Earl of Gloucester, and his army routed with great slaughter." Reinforcements were also necessary for the Empress; consequently "The Earl of Gloucester embarked here to solicit succours from the Earl of Anjou, 1142. In his absence, King Stephen burnt the town and took the Castle," which Herbert de Laci appears to have defended. Robert, on his return, "conducted over Prince Henry with a body of forces, who landed at Wareham 1142, which, being then in the king's possession, he besieged and took the Castle after three months' siege, and signalled himself in these wars." Again the town, harbour, and castle were retaken. Subsequently, we are informed, that Robert's son, "William, was by his father made Governor of Wareham Castle." Some idea can be formed of the extent of Wareham Harbour from an inspection of the locality; and of the strength of Wareham Castle by its sustaining a three months' siege. According to Hutchins the troops were brought in 52 ships, so that the term "noted port," applied to it by Gervase of Canterbury was no

exaggeration. The size of the ships must be left to conjecture ; but in the records of the Wareham ships the crews average from 15 to 20 men. For awhile the wars abated and the troops who had landed at Wareham probably enjoyed a short well-earned repose till the cry of battle was again raised and the struggle renewed with greater force ; matters ever grew worse whilst Stephen was king. Prince Henry, who had accompanied the Earl of Gloucester to Wareham, was a legitimate son of the Empress, by her husband, Geoffrey of Anjou. This Prince, rightful heir to the English throne, had been educated under the superintendence of his uncle, who, considering it advantageous to his nephew, persuaded the Earl of Anjou to allow his youthful son to accompany him to England, and Henry, as we have seen, took ship for Wareham. His sojourn was extended in this land till, from fear of Stephen, it was deemed necessary to seek safety in flight. It is stated in the Saxon annals that in 1146 "King Stephen prevailing, Prince Henry being obliged to quit the kingdom, took ship at Wareham for Anjou." During these wars "Robert, Earl of Gloucester, took Lulwarde Castle for the Empress Maud," probably in 1146.

In order to resist such determined opposition during the severe struggle there is good reason to suppose that each party for their own convenience maintained the strength and efficiency of the fortifications. Stephen's troops had not the opportunity of attacking the town by water that the forces of the Empress had. The Wareham ships and those which brought the reinforcements from Normandy could hold the harbour and guard the town north, east, and south, so that the West Wall alone was liable to be attacked by forces on land. Here we see the necessity for the West Wall being more strongly guarded than the others.

About a mile west of this wall lies Wargate, or Worthgate. Worth, Mr. Sumner observes, signifies a fort or ward gate, from ward and watch being kept there. Hutchins says that the ramparts on the brow of the hill west of Wargate look like some advanced works or outposts. The advantage of this outpost is apparent, because, situated on a high ground on the narrow strip of

land before mentioned, the enemy could be watched in all directions, and, whilst it proved a formidable check to the enemy in case of invasion, it effectually guarded the town and military barracks if (they probably were not) situated between Wargate and the West Wall. There is no mention of a gate; Westport suggests water, and the means of exit and entrance was probably by a drawbridge. The locality supports the theory. By this means the garrison could, if sorely pressed, obtain shelter within the wall; by the raising of the bridge the town would be closed to the enemy, and the assailants, had they been fortunate enough to have passed the outposts, would have found themselves wholly at the mercy of the defenders at the top of the hill. Camden describes the castle which William the Conqueror had built as exceeding strong: this stood inside, and probably conspicuous above, the south end of the West Wall. Hutchins gives the length of this wall as 1,800 feet.

North of the West Gate we find an opening, probably at some time cut for convenience; unless a small water gate for the dwellers in that quarter of the town. Beyond this the wall rises rapidly, and this higher portion of the wall declines, or did decline, according to Mr. Warne, 50 feet on the south and 40 on the north. A platform existed west of the higher part, and this would prove a remarkably good point of vantage ground for a sentry to watch over an extensive area, both of land and water, the movements of an enemy; it would also afford him some shelter. Cannon being unknown at this period the walls could better withstand the attack. From end to end a remarkable ditch existed at the base of this wall, and very deep at the north end. By this ditch the wall was considerably heightened, and with the sea at both ends there would have been little difficulty in getting the water through. The ditch would have formed a kind of moat for the Castle and also protection for the West Wall till drained by the retreat of the sea. Further, Hutchins suggests that at the end of this wall a sally port existed, and an inspection of this angle of the wall will support his theory.

There is, moreover, reason to suppose that a stage or narrow ledge existed at the base of the North Wall and gained by this sally port, which would have served the purpose of landing or embarking troops, either to depart from the town to the deeper water of the harbour, or by sailing through the ditch frustrate the designs of an enemy who had the boldness to attack Wareham Castle. The vigilance of the sentinels of Wareham is not recorded as extraordinary. The shallowness of the ditch might raise an objection to this theory, but it can be accounted for. When Hutchins wrote his description of these walls it should be remembered that as fortifications they had been effectually ruined by the Parliamentarians, after the battle fought at the West Gate in August, 1644. The endeavour of the enemy was to prevent their being again restored and strengthened, and this suggests a reason why the walls at the entrances to the town are so battered and all traces of the gates obliterated. The twelve hundred horse and foot who fought and forced an entrance at the West Gate would do much towards filling up the ditch, a work which would be continued by battering down and demolishing the walls ; the work then begun the rough carelessnesses of centuries would finish ; moreover, the Gate being destroyed, we see a reason for the short roadway made between Wareham and Westport. The Vandalism of the period is yet manifest in the magnificent ruins of Corfe Castle, and it was not till above a century after the deliberate destruction of the strongholds of the neighbourhood that Hutchins took the measurements and wrote the description of the walls for which, though brief, we are deeply indebted to him. At the angle of this wall is a double rampart mentioned by Hutchins ; suggestive of additional strength and protection. A few yards east on the North Wall is an opening, supposed by Mr. Warne to have been a water gate. Such a supposition is reasonable ; it might also have served for landing and embarking troops ; the base suggests the probability that a stage or platform ran the whole length of this wall, and as the deeper water was doubtless N.E. of Wareham the stage might also have served for loading and unloading vessels at the time of an extensive corn trade.

At this point the height of the wall is given at 50 feet. As we come to the north entrance we observe Nature's part of the fortifications. The bastions of the North Wall are evidences of prodigious strength, but their appearance is more natural than artificial, as it will be observed that each side of the street is level with them. Here probably gates of great strength, or a portcullis of ponderous weight, existed, which, when closed or lowered, formed a formidable barrier to the enemy. This was an important entrance to the town and doubtless frequently opened to admit the English monarchs and their retinues who, for various reasons, constantly visited the town. The length of this wall is given as 1,960 feet, gradually declining 415 feet towards the east end, where it joins the East Wall. Viewed from the causeway the importance of this gate is manifest, and the base of the wall offers a good landing place for ships that required deeper water or sought the shelter this formidable wall offered. The more this wall is studied the more its extraordinary strength appears, and when we consider that probably well nigh 1800 years have elapsed since their construction, we have no room to doubt that ancient Wareham was an impregnable fortress. The East Wall, 1,600ft., was the shortest, the average height 30 feet. This was, perhaps, the weakest and least important; but was, however, protected by a breastwork midway between the wall and the sea, where at a later period invaders were resisted. At the angle of these walls there exists a small fortification, as it were in miniature, 180 feet by 90. Neither Mr. Warne nor Hutchins discovered its use, though the latter considered it designed for some military purpose. This is known as the Bowling Green, suggestive rather that our forefathers enjoyed a game of bowls as well as cockfighting.

Ancient Wareham will substantiate to a large extent the records of the historians; and a tour of exploration may prove that they have not erred. Those of us who have embraced the opportunity offered on rare occasions by extraordinary high tides to realise somewhat of Wareham as a fortified town and harbour have been rewarded. No better point of vantage ground for the purpose

could be found than the walls, and no better idea could be suggested. The great body of water extends to Holme Bridge, filling the space between Wareham and Stowborough, and, as the passengers are conveyed across in small boats, a thought of the ancient mode of crossing suggests itself—viz., the ferry. The meadows north of the town are not flooded to the same extent, yet sufficiently to substantiate the theory that Wareham was surrounded on three sides by water. The walls of Wareham are entitled to respect : they are worthy any efforts for preservation ; long have they borne the scars of conflict—silent evidences of Wareham's ancient glory—and long may these grand old ruins still remain—unharmed, except by the ravages of time. In the reign of King John there was much excitement and warlike commotion at Wareham, that monarch being well acquainted with the town. The extensive hunting grounds of Purbeck he placed under Forest Laws. John had several hunting lodges and residences in the locality, amongst them Whitcliffe in Purbeck and Tollard Royal for the Cranborne Chase. There are records of business transacted and certain privileges, *inter alia*, a fair granted at Bere Regis ; but Corfe Castle was considered the safest place for the regalia. John's expenditure on Corfe Castle was great, and there is reason to suppose that he personally inspected the improvements at this stately fortress ; the fortifications at Wareham contributed to its protection. In the year 1201 John was at war with France, and “at the siege of Mirabel” many of the highest and noblest were taken prisoners, amongst them his nephew Arthur. Many of these prisoners were sent over to England, but the unfortunate Prince, towards whom his uncle exhibited much animosity, was “shut up in the Castle of Falaise.” Being anxious to get rid of this troublesome nephew, John “proposed to William de la Bray, one of his servants, to dispatch Arthur, but William replied that he was a gentleman not a hangman ; and he positively refused compliance.” John next requested one of his chamberlains, Hubert de Bourgh, the Governor of Falaise Castle, to murder Arthur. Shakespeare, in King John, Act IV., Scene I., gives the conversation supposed to

have taken place between Hubert and his prisoner, whose life was still spared. John paid a stealthy night visit to his nephew. Subsequently there is recorded "a sudden stab and a fair-haired corpse cleaving the dark waters of the Seine." Among the prisoners captured by John were 24 knights from among "the principal nobility of Poictiers;" these were consigned to the dungeon at Corfe Castle, and there 22 of them are said to have been starved to death by John's special orders. John had got into his power Arthur's sister; and amongst other places of imprisonment, his niece, "The Princess Alianor, La Breté, or the damsel of Bretagne, in company with the two daughters of Alexander, king of Scotland, were confined in Corfe Castle." In a paper on Corfe Castle it is stated that "only a few months before his death he sent here William d'Albini and other knights whom he captured in the Castle at Rochester, and in order to make room for them other prisoners had to be sent away." In looking at Corfe Castle as a State prison we have anticipated.

According to Matt. Paris, in July, 1204, King John visited Wareham, and again (Saxon Annals), in 1205, he landed here. From the same source we gather that in the year 1208 King John again came to Wareham and placed a garrison here. This same year John had a quarrel with the Pope. At this period lived a priest, one Peter of Pomfret, and he declared to the King that his reign should end on Ascension Day, May 23, 1213. This festival is said to have been "much dreaded and mistrusted, not by the King only, but by all classes of the people, on account of the prophecy." Peter, who "persisted in his assertion and offered to undergo any punishment if its truth were not proved, was thrown in chains into the dungeon at Corfe Castle to abide the event." Before the dawn of Ascension Day the required submission was made, "and it was believed that John's surrender of the crown to the Pope had verified the prediction." John had failed to realise the fulfilment of Peter's assertion; consequently "determined to bring him to punishment as an imposter; and though the

man pleaded that his prophesy had been fulfilled, and that the King had lost the royal and independent crown which he formerly wore, the defence was supposed to aggravate his guilt." Peter and his son were condemned, the sentence being that they should be dragged at horses' tails from Corfe Castle to Wareham and there executed. John's command was obeyed, and the awarded punishment carried out with extreme measures, for the inhabitants were granted the unedifying spectacle of seeing the unfortunate Peter and his son dragged about the streets of Wareham, then to the place of execution where they were hanged, and, according to Matt. Paris, their bodies afterwards quartered. The place of execution was evidently what is known as Bloody Bank—a large mound west and at the base of the West Wall. The hanging towers in Corfe Castle were perhaps for private, and the gallows at Norden for public, executions; but Wareham appears to have been the chief place of execution in the neighbourhood, and such sights, ghastly and disgusting as they were, being public affairs, attracted undoubtedly a considerable number of spectators. The Wareham gallows, of which more anon, were also remunerative. If John was not a spectator of Peter's execution he was during that year in the neighbourhood, for, in the records of Bere Regis, we find that same year "the credentials of William, Earl of Sarum, &c., to the Earl of Flanders, and some other instruments were dated hence." A struggle was evidently anticipated, for it is stated that in the 16th year of his reign "John put strong garrisons into Corfe and Wareham." In August, the following year, King John was again at Wareham. This was a memorable year, and John's thoughts being wholly concentrated on revenge, that monarch made an unexpected attack on the Barons; and being unprepared "they invited Louis, eldest son of the King of France, to come to their aid, promising him the crown of England." This appears to have excited much anxiety regarding the neighbourhood, for Matt. Paris, writing of the year 1216, says:—"John, the King, this summer was marching with amazing celerity to Wareham to put it in a posture of defence." On the arrival of Louis, Prince of France, in 1216, King John

furnished Wareham Castle with arms and provisions, and put a strong garrison into it." Louis landed in England in May, "in June and July" John is said to have been at Wareham, so that he probably was superintending the strengthening of its defences. There would seem little doubt but what Wareham participated in the struggle between John and the Barons; both town and churches appeared to have suffered severely; Wareham Castle was probably demolished, passing then from the history of our ancient town. No monarch before or since ever humiliated the English crown as John did, but his hour of retribution came, degraded in the eyes of his subjects and despised by his barons, anxiety and the loss of his baggage and regalia, told upon the enfeebled constitution of the Royal hypocrite, and the rest and remedies he sought proved of no avail. "Ralph de Lincoln, Abbot of Croxton, was physician to King John at the time he died at Newark." Thus England was rid of a tyrant.

The wars between Henry III. and the Barons affected the neighbourhood. Corfe Castle was taken and re-taken. This is said to be one of the first castles given up. The completion of Corfe Castle, the restoration of St. Mary's and St. Martin's Churches, proves that Wareham enjoyed some tranquility during this reign.

In succeeding periods Wareham was in warlike commotion of another kind. It is stated that in May, 1291, Edward I. "was at Wareham superintending the manning and victualing of ships" for his continental expedition. There is, moreover, a record of a remarkable letter from that monarch, dated at Wareham, advising a friendly power of a contemplated invasion. In 1347 Edward the Third, requiring forces for the siege of Calais, "Wareham furnished three ships and 59 men." Whilst engaged in this war Edward appropriated the revenues of Wareham Priory, a proceeding in which he was justified. There is, however, in Hutchins, the writ of enquiry for the recovering of the property. In the same work there is also found "A precept for the Sheriff to guard the coast from the invasions of the French" in the year 1383. But

Wareham's prosperity as a noted harbour was declining. It is a reasonable conjecture that the retreat of the sea took place at the end of the 14th or early in the 15th century, subsiding perhaps somewhat suddenly. Hutchins gave an instance of the sea retreating in one place, as it advanced in another, and it is possible that a careful investigation would reveal the fact that the natural channel—there is mention of a second—for the passage of the water to and from the river was widened through the bed whence the sea had subsided in order to encourage the breeding of salmon. In 1347 Wareham was in a state of military excitement, fitting ships for war. In 1431 a court was held at Wareham for the preservation of the river, and the inhabitants prohibited from sweeping rubbish therein. The profits arising from the salmon fishery in the reign of Henry VII. were considerable ; the revenue is stated to have been settled on Catherine of Arragon for a dowry ; and, we are informed, the divorced Queen Catherine "retained her salmon fishery." Lewis informs us that "so abundant and cheap was this fish that the curious stipulation inserted in the indentures of the apprentices that they should not be compelled to eat of it more than thrice a week, prevailed here as in various other places." Thirty salmon were caught June 7th, 1776, and, scarce a century ago, the Corporation enjoyed their three annual salmon feasts. The channel in which the water of the Pydel ran through the bed whence the sea had subsided north of the town was preserved and utilised as a mill stream. A copy of letter exists, the purport of which was to obtain a mill stone from Normandy, written by Robert Laidimis, a "Parson of Martyne of Warham," and dated 21st September, 1440. Wareham, as a harbour, was ruined by the retreat of the sea ; the salmon fishery and the trade of the town, as far as shipping was concerned, was ruined by the neglect of the river by the inhabitants, notwithstanding the frequent courts of enquiry and the officers appointed to guard its banks. The story of the disgusted salmon who indignantly bade adieu to Wareham waters is most amusing, though full of stubborn truth. To the drainage which ran down South-street, and the washing of the town

by heavy storms, all flowing in the same direction, can be attributed the large accumulation of mud in the river ; this fact was eventually recognised, and then, when too late, the channel for the drainage was turned eastward. In the early part of the 18th century the lakes are said to have been cut for draining the Morass, south of Wareham. On May 31st, 1776, the foundation of the present bridge was made. As we have seen, the reign of Henry VII. was a flourishing period at Wareham. By the accession of that monarch the broken line was restored, the Crown of England worn by its legitimate owner, and thus the eagle's prophecy was fulfilled. The arrival of the fleet of Philip of Castile on the coast of Dorset in January, 1506, excited much alarm ; but the loyalty of the county was aroused and troops speedily marched to meet the supposed invaders. During this century the country was again in a state of excitement by reason of an engagement between the English Fleet and the Spanish Armada, which Hutchins states took place in 1588 off Portland. The antiquarians amongst us—not the nominal but real—acknowledge our deep obligations to, and honour with profound respect the memory of Mr. Hutchins, a former rector of the town, and Mr. Charles Warne, F.S.A., for their valuable works on our county ; but, never till years of study have been spent on, and a thorough investigation of this particular portion of Dorset made, will the pristine importance of the town be in any degree realised, or the history of Wareham written. Again Wareham sustained a series of calamities. During the Civil Wars Wareham again became a seat of war, and at the commencement the walls of Wareham were considerably strengthened ; the town fortified and garrisoned. In this general commotion the women of the county distinguished themselves, doing duty at the works and supplying the soldiers with ammunition. At one attack a woman is said to have discharged 16 muskets. Lady Bankes, by her heroic defence of Corfe Castle, and the wife of Rev. William Wake, Rector of Wareham, by many services to the king, signalised themselves. Poole, "during the whole of the Civil Wars, was a very troublesome neighbour to Wareham." "Aug. 19th, 1642, £10" is said to have

been granted for strengthening the walls ; the same month "Sir Walter Erle and Sir Thomas Trenchard possessed themselves of Wareham." The town was, however, speedily regained by the King's forces, and, "Sept. 2nd, £50 more was advanced for the purpose of 'strengthening the walls.'" "Feb. 18th, 1643, the garrisons of Wareham and Poole beat Lord Inchiquin's Irish Regiment, killed some, took several prisoners, two pieces of ordnance, and fired their magazine." "Feb. 27th, 1643, a party of the garrison of Wareham, under Captain Sydenham, was met at Holme Bridge by some of Lord Inchiquin's regiment, twenty-five foot and twenty horse, commanded by Captain Purton and his lieutenant, who engaged the rebels, who had 300 horse and foot, near five hours. The captain and lieutenant were both shot, and ordered their men to lay them on the brink of the bridge, where they encouraged their men till more of the king's forces coming to their assistance, the rebels fled, leaving forty dead, and eight loads of hay and provisions which they had plundered from the country. The Royalists had twelve wounded but none killed ; the lieutenant bled to death, encouraging his men with great cheerfulness." "After the action at Holme Bridge it was again in the hands of the Parliament." "In May, 1643, two hundredweight of gunpowder was intercepted, and proclamation was made at Wareham that no provision should be sold for her (Lady Bankes') use." "Nov. 23rd, 1643, the garrison of Poole went up in boats to Wareham and surprised and plundered it." "Nov. 25th, 1643, circiter, Captain Lay brought up 200 men from Poole in vessels a mile below the town. They were opposed at a breastwork ; but the enemy landed, the King's men retired into the town, where they rallied in a body, and on the coming up of the enemy fled at a gate behind them. Two hundred were made prisoners, many arms, much ammunition, cattle and provisions for the next day's market, much cloth and hay, was taken and carried to Poole ; Captain Sydenham in the meantime summoned Wimbourne to prevent any assistance." "In April, 1644, the King's forces surprised Wareham, as was suspected, by the treachery of

the captain of the watch, who let them in, for which they, being masters of the place, killed the captain and many others, and committed divers rapes and cruelties." "April 13th, 1644, intelligence came that Colonel Ashburnham, Lieutenant-Colonel Froud, and Lord Inchiquin's brother, Lieutenant-Colonel Obryan, and Major Pigot, the Thursday before attacked it, and took it by break of day, with the loss of two men and five wounded. They found twenty-five rebels dead in the streets, fourteen more were drowned. They took six captains and 150 soldiers, the rest escaped to Poole. They also took thirteen pieces of ordnance, 200 muskets, &c. Obryan was made governor." "June 15th, Prince Maurice, before he raised the seige of Lyme, augmented the garrison with 500 men." "July 11th, Lord Inchiquin sent out a party of 240 horse and foot from Wareham to Dorchester, who faced the town several hours; but the inhabitants sent to the Parliament garrisons at Weymouth, &c., for relief, on which Colonel and Major Sydenham came with their forces and put them to flight, and pursued them almost to Wareham, took a waggon laden with plunder, slew 12, and took 60 horses, and made 160 men prisoners." "July 18th or 21st, circiter, the Earl of Essex sent a party to summon it, but in vain." "August 8th or 10th, circiter, Sir Anthony Ashley Cooper, Colonel Sydenham, &c., with 1,200 horse and foot, drawn out of the garrisons of Lyme, Weymouth, and Poole, besieged and assaulted it, and gained the outworks, on which it surrendered upon articles." "Most of the garrison was sent into Ireland, Lord Inchiquin having ordered his brother Obryan to come over to his assistance, he having then sided with the Parliament, which was the occasion of so easy a surrender. The thought of the Parliamentarians now was to utterly destroy the town; but, notwithstanding that it was terribly defaced, it still retained some importance." Nov. 9th, by Governor Robert Butler's accounts, £105 11s. 10d. were paid to the Blue Coats, £101 11s. 10d. to the Grey Coats. 1645, Feb. 7th, "a party of 120 men from Oxford marched hither, went to the governor's house, who, with his son, defended it three hours till it was fired, and, a magazine

being near, they were obliged to yield on quarter. They carried the governor and two committee men into Corfe Castle "with other prisoners. " When Wareham was regained the King's horse escaped thence by favour of night through the guards into the Castle. Butler afterwards escaped hence with Colonel Lawrence, who came over to the Parliament." "June 20th, 1645, Captain Butler marched from Wareham with a party of horse and foot; the horse faced the Castle (Corfe), the foot entered the town, beat the garrison into the Castle, and kept them in play whilst the horse brought away from the walls 160 cattle and horses to Wareham."

"Dec. 16th, 1645, Fairfax sent a regiment of horse and two of foot to take Corfe." The following year, 1646, "March 4th, a vote was passed to slight it, a garrison here (Wareham) being no longer of any service, as Corfe Castle was taken, to which it was a check. The Governor's accounts extend from August 19th, 1644, to April 30th, 1646; his disbursements amounted to £4,717 10s. 3d., besides £329 12s. 6d. due to him for raising and arming his company; his receipts amounted to £3,478 16s. 7d., besides which he received out of Blandford division £1,329 13s. 4d., all of which was disbursed."

During these wars, besides being shot in the head with a fowling piece by the governor of the town, the rector of Wareham was imprisoned 19 times. Major Sydenham committed him to Dorchester Gaol; then, after his release, he retired to Sherborne Castle, which, according to Hume, was built by the then Bishop of Salisbury during the wars between King Stephen and the Empress Maud, at the taking of which he was made prisoner, and, curiously enough, being at Corfe Castle when that succumbed to treachery, was again made prisoner. His son William "distinguished himself in the royal cause. He was eighteen times a prisoner, twice condemned to be hanged, and saved the first time by an uncle in the Parliamentary interest, and the second by articles he made with Captain Crook." "Mr. William Wake, father to the Archbishop, was carried very young into the King's army and suffered much for the royal cause, more than the rest of his quality

. . . . and once (if not twice) condemned at Exeter to be hanged, drawn and quartered, for his loyalty in the western insurrection. "It appears from an original passport under the hand and seal of General Fairfax that the before-mentioned William Wake had an ensign's commission in 1646 in the King's army." Ensign Wake evidently wished to visit Wareham, the home of his boyhood, and permission was granted. The following is an exact copy of the passport :—

"Suffer the bearer hereof, Ensigne Wake, with his horses and other necessaries, passe your guarde to Blandford or Wareham in Dorsetshire, without let or molestation, there to remaine, he havinge engaged himself not to bear arms against the Parliament without first rendering himself prisoner to the Parliament's forces."

"Given under my hand and seale this xijth of May, 1646."

"FAIRFAX."

"To all officers and souldiers un
der my command, or in the ser
vice of the Parliament."

Indorsed, "Capt. HARRISON."

Following the Civil Wars, there was a naval engagement in 1652, which Hutchins states took place between the Duke of York and the Dutch Fleet off Portland.

Once more we find a transaction worthy of notice in connection with the Wareham gallows "After the failure of the ill-fated attempt made by the brave Monmouth to restore freedom to these realms. Among many others who engaged in the struggle and fell victims to the relentless Judge Jeffries were Captain Tyler, Mr. Matthews, and Mr. Holway, who, having been condemned to die, were sent to Wareham to be executed. They were hung near the West Wall on a spot called Bloody Bank, their quarters placed on the bridge, and their heads nailed to a wooden tower on the present site of the Town Hall." Subsequently, we are informed the heads were stolen, hidden under a bed, which hiding-place escaped the vigilance of the officers who searched the house, then buried at

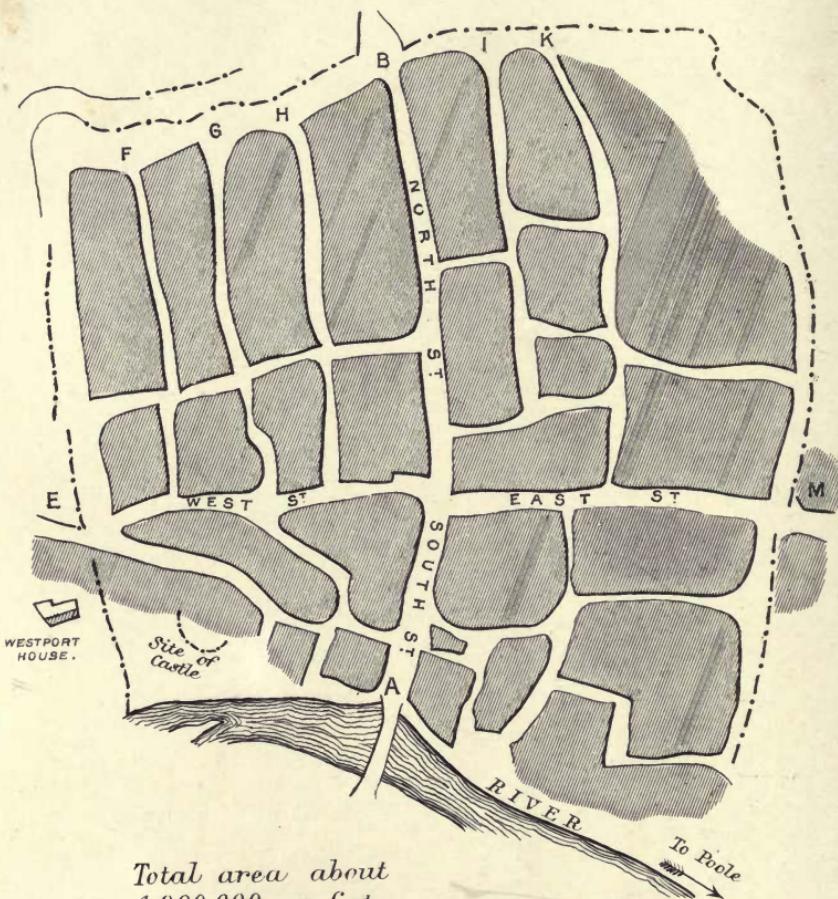
the end of the East Wall. By reason of the extraordinary appearance of the clouds one evening in December, 1678, the residents of the Isle of Purbeck "came to Wareham and alarmed the town, on which the boats were all drawn to the north side of the river and the bridge barricaded ; 300 of the militia were marched to Wareham." Though the alarm of invasion was unfounded the loyalty of the county was again manifested, for it is stated that "above 40,000 armed volunteers assembled in two or three days' time." Their services happily were not required, but this was the last call "to arms" heard in Wareham, and the last occasion on which Wareham assumed the defensive. During the revolution of 1688, the plan of which Lewis stated was concerted two years previously at Charborough, a patriot was found in Wareham, who, being made sergeant of a company, marched to Torbay to meet King William, thence with the army to London, signalising himself in various ways. Having been appointed sentry at the Tower of London he recognised Judge Jeffries, who was confined as prisoner there. Delacourt's salutation was more truthful than complimentary. "You bloody villain," he is said to have remarked, "you have been the murderer of many a pious man in the West of England, and I can testify to three excellent as God Almighty ever made." This was probably related by Delacourt to one of his fellow townsmen, who recorded it.

By the departure of the Scotch Greys about 1,800, from the military barracks, Wareham, as a garrison town, ceased to exist, and, by the transformation of Westport into a private residence, all traces of the barracks were obliterated. A well-earned season of tranquility is Wareham enjoying ; still retaining the scars of her conflicts. The ruined ramparts of Wareham are of the greatest possible interest ; they substantiate the assertions as to her ancient strength, prosperity, and importance. The ruined ramparts of Wareham are moreover a happy combination of health and pleasure, forming a delightful promenade. Both unique and picturesque themselves, they also command extensive views of exquisite scenery. The statements made have been quoted from many

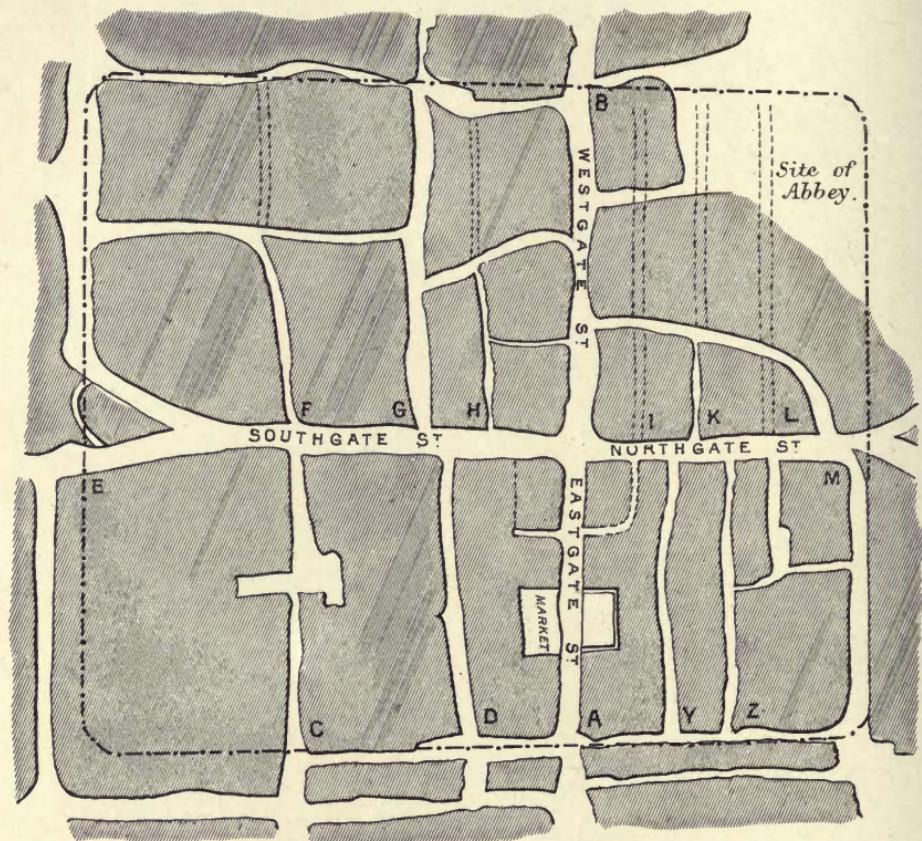
sources, and much is purposely taken from that excellent history written within these ancient ramparts ; but though of necessity curtailed there has been given, as far as possible in his own words, Hutchins' records concerning Wareham, its invasions, and battles.



WAREHAM.

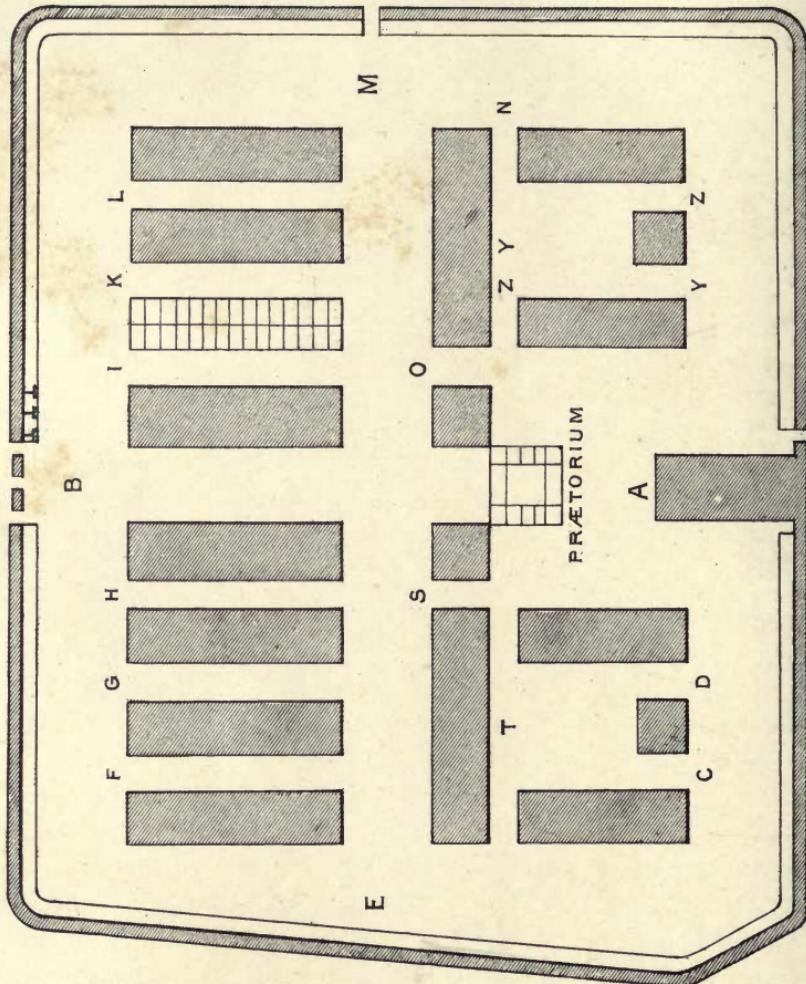


GLOUCESTER.



Total area about 2,000,000, sq. feet.

CASTRA PRÆTORIANA - ROMÆ.





Roman Wareham and the Claudian Invasion.

By JOHN BELLows.



I HAVE been asked to lay before the members of the Dorset Naturalists' Society some reasons for regarding the walls of Wareham as of Roman origin. As these reasons depend for their force on analogies drawn from other Roman remains, and especially with those it has been my lot to discover in the city of Gloucester, I will briefly describe some of the latter, while suggesting that any argument which is based on negative evidence only should be received with caution. I believe about a century ago the President of the Society of Antiquaries in his annual address mentioned Gloucester as a place in which nothing existed to show that the Romans had ever been connected with it except the Latin termination of the name. How utterly he was mistaken may be gathered from the fact that since that period there have been discovered there four lapidary inscriptions, pillar-bases from five temples or other Roman buildings, the remains of many hundreds of burials, great quantities of Roman pottery, and several pavements; while coins from Claudius to the end of the Empire in Britain are so numerous that for every English coin we now find in digging foundations, &c., we usually discover half-a-dozen Roman. May I add to this that within the past 20 years I have discovered

the original garrison, and succeeded in tracing its entire lines, which the Ordnance surveyors have since laid down on our city map, and that within the past three years we have been further able to identify the subordinate lanes and alleys of the camp and to recover some of the original measurements of width, &c., with the net result that at this moment in the city that was imagined to have only the tail of its name to its credit as a Roman town we find a smaller amount of alteration since the year 43 of the Christian era than in any other town in Britain, or, I believe, in Europe. We have, inside the Roman boundary, one new street (the "Commercial-road"), but with that exception every street and lane we can set foot on can be traced in the plan of a Roman camp. This will be more readily understood by a reference to the little map of Gloucester annexed, and comparing it with the plan in Viollet de Duc's lectures on Architecture, of the *Castra Pretoriana*, at Rome. This plan is purely a theoretical one; but it was the theory of a man who knew perfectly what he was about; and the way in which it answers in minute details to the lines of our existing town is the best proof of its soundness. This *Pretorian Camp* was begun, it will be remembered, by Tiberius, and finished by Claudius within a few years of the invasion of Britain; so that the arrangements in both the *Pretorian* and earliest Roman camps in Britain belong to the same epoch. When we speak of a camp as Roman it must not be forgotten that Roman camps which belong to late periods are not of the same form as the earlier ones; and the same may be said of Roman roads. The popular idea is that these were straight; and for a long time the main roads were made in very straight lines; but Camden reminds us that in the time of Trajan this system began to be modified, and the Roman engineers made curves instead of straight lines where better gradients could be obtained by doing so. The original city of Rome was a square camp—*Rome Quadrata*. At the period of the invasion of Britain the square camp had become a little, but only a little, elongated. In all its main features, however, it was like that of Polybius; but if we come to the period of the Constantines this no longer holds good.

Great changes had been made in the composition of the legion, and of the several bodies into which it was divided, and these changes left the nearly quadrate camp unsuited to the defence of its garrison. Therefore in Britain a nearly square camp marks not only a Roman origin, but an origin during the earlier Roman occupation of the island. Now a comparison of the Pretorian Camp with Roman Gloucester shows the same almost square outline in both: while the length and breadth of Wareham are still more nearly equal.

A peculiarity in the Pretorian Camp is that the two quarters of the area, which stand on the upper side of the Via Pretoria (E M), are each composed of *four blocks* of building divided by *three streets* (marked F G H and I K L), while the remaining two quarters, on the lower side of the main street, consist respectively of *three blocks* divided by *two streets*.

In the existing city of Gloucester we find exactly the same arrangements, with the exception that passages I and L are wanting, though shown in old maps. This is probably from the building of the Abbey (now the Cathedral), having taken up most of the quarter through which they ran. A portion of I is still used, however, as a back way to houses.

An examination of Wareham not only reveals the Roman arrangement of the four main streets, which are named, like those at Gloucester, from the cardinal points of the compass, but it shows the north-west corner still preserving the sub-division into *four blocks* intersected by *three streets*. Wareham has suffered much more from sieges than Gloucester has; yet while, as a whole, the latter keeps more of the original plan than any other town in Great Britain, if not in Europe, the part corresponding to the north-west of Wareham is less distinct than in the latter town.

The destruction of the parts of Wareham on the southern side has obliterated the original division into three blocks, as on either hand of the Eastgate Street in Gloucester; but we get an inkling of this having formerly been the case in Wareham, from the

circumstance that the only bye-lane now running through from East Street to the river is not in line with street I (see plan), but cuts off a block occupying one-third of this quarter of the town instead of one-fourth as in the case of I and K.

The reason for this difference of division on the two sides of the line of the Via Principia is that the smaller quarters, which are in three blocks, were occupied by the principal officers, with the forces and the stores required for the camp ; while the larger portion (on either hand of Westgate Street in Gloucester, and of North Street in Wareham) was the quarters of the private soldiers: infantry and cavalry. Thus in Longsmith Street in Gloucester (marked G in the plan) we find the forges required for the cavalry horse shoeing, &c. ; the horse being placed on the left of this line in the camp.

One item worth mention is that the officers' quarters were always placed furthest from the enemy, for obvious reasons, as the rank and file were, by this arrangement, close to the gate by which they marched out to battle, and to the rampart most needing defence.

In Gloucester the "enemy" were the Silures on the west of the city. It has been a puzzle to some antiquaries, who have written on Wareham, that that town is so strongly defended on the north, while it is much weaker on the south ; the problem being to account for this, if the place was, as some imagine, built to resist the Danes, or an enemy attacking from the sea.

But the Romans, in building Wareham, left it open towards the sea, and fortified it with immense earthworks on the north side ; so that they must have used the place for landing from a fleet that was sufficient for the southern defence.

The result of this is curious : for as no Saxon king, who afterwards occupied it, had the immense power at command to make Wareham as strong on the south as he found it on the north when he came into possession of it, the town was naturally attacked more on this weaker side, and hence more repeatedly and completely destroyed. This will account for the difference in the preservation

of the north-west quarter, as furthest from the Danish and other attacks by sea, the fury of each attack being felt, of course, most where the contest was hottest.

At the time I was privileged to put before the Dorset Naturalists' Club an outline of the present paper I was not aware that any coins or Roman pottery had been found in Wareham ; indeed I had been informed that nothing of the sort *had* ever been discovered there. Several of the members will, however, recollect that we picked up fragments of Roman ware in our walk round the walls after the meeting, and we were invited to inspect a most interesting and really beautiful collection of coins, Samian (beginning with Vespasian), black Upchurch, and other Roman ware, in the Town Hall, where they had been placed by the kind thought of W. Drew, who had collected them in the past few years, and to whom the lovers of Dorsetshire archaeology owe a grateful acknowledgment for their preservation. But besides the evidence of these remains and the unmistakeable identity of the ground plan of Wareham, not merely with that of a Roman camp of the first class, but with such a camp as it was connected in the century of our era, we have some linguistic traces which have not hitherto received the attention they deserve.

First, there are the names of West Port and North Port. If the walls had been of Saxon origin these would have been called West Gate and North Gate, and the Latin form would not have been continued. In the Roman time the speech of the people was bilingual, the officials using Latin, the masses a tongue like Welsh or Cornish, into which some Latin words got absorbed, such as Port (from *Porta*). When the Saxon rule replaced the British, some of the names used by the latter were retained ; others were translated ; and where a word had two meanings it sometimes happened that the wrong one was taken in the translation. Thus the Britons had the word *Gor*—*Main* or Great ; and in the name of the great moorland leading from Wareham to Sherford and Moredon the Saxons translated *part* of the name that meant *heath*, but left the adjective *Gor* as it was—so that the district is now

known as *Gore Heath*. But the name of a farm adjoining the east wall of Wareham gives us a clue, through one of these mis-translations, to the name by which the Britons called the Town Wall—*i.e.*, *Gor-wall*, or *Main Wall*, for “Wall” itself is but the Latin *Vallum*, which became in Welsh “*Gwal*.” It dropped the *G* in composition, and the Saxons took it without further alteration, handing down to ourselves. But a secondary meaning sprang from *Main*—that is *Best* as the foremost or main of any given class of things, and the Saxons who took over Wareham must have taken this rendering of *Gor* instead of the right one, for that they called the Town Wall the *Best Wall* is made evident from the name of *Best Wall Farm*.

An examination of *Ordnance Map* will show several names near the town which are usual along lines of Roman road. As this essay is not intended to be an exhaustive one, it may suffice here to instance “Cold Harbour” on the road to Bere. Cold Harbours were the stations for changing horses along the lines of highway, as distinguished from inns in the full sense. The name will be found again and again in Roman districts, and especially in the approaches to London.*

There are two points of difference between Roman Gloucester and Wareham: First, that the walls of the former are of massive masonry, while Wareham walls are of earth. Second, that while the area enclosed is about two millions of square feet in

* The name of the town itself has, I think, been erroneously connected with *Weir*, a Dam in the river. The *sound* is not *Weir*, however, but *Ware*, and the British word *Gwair*—*Hay*, precisely describes the character of the meadows in which the place is situated: the characters which must have had considerable weight with the Roman General in selecting the spots, when his army contained a very large force of cavalry, needing the summer pasture these meadows afforded. Similar meadows on the west of Gloucester, flooded by the Severn, have given the name to the village of *Maisemore* (*Maes-mawr*—Great Ham or Meadow). This word has chanced not to get translated at all, so that the fields are locally known now as *Maisemore’s Ham*: which is a duplication. I suspect that in the case of *Ware-Ham* one portion only of the word has got translated, and the other has been retained. I do not, however, assert this; but offer it as a suggestion.

Gloucester, it is about four millions, or just double, in Wareham, showing that the latter was intended for the camping of a much larger army.

Earthen walls point to a temporary occupation, in so far as that occupation was intended as a military one.

There is a singular semicircular bend in the north-west corner of the Wareham Wall which seems to have been provided as an amphitheatre or place for games. Just as at Caerleon the Roman amphitheatre was used in after times as the "bear pit" so this part of Wareham has been used as a cockpit. It is 96ft. 6in. in diameter, *i.e.*, 100 *Roman feet*. That at Caerleon is the same size. The site was carefully chosen—"nearest the enemy," so that in case of a surprise attack the soldiery would be instantly summonable to the ramparts to repel it.

These are the points we have to account for, and to do this we must first form a clear idea of what the Romans did in the Claudian invasion of the year 43.

Soon after the publication in the Proceedings of the Cotteswold Club, of the discovery of the Roman lines of fortification at Gloucester, a copy of the article fell into the hands of Dr. Hübner. He regarded the discovery as so important to the Roman history of Britain that he wrote an article on it in a German Archaeological Journal, in which he argued that as the contemporary occupations of Chester and Lincoln, later on of Carlisle and Newcastle, and later still of the Clyde and the Frith of Forth, indicate a system of horizontal or "magistral" lines drawn across the island, it is certain that this system must have been the one with which the Romans set out in the beginning of the invasion. We know from Tacitus that they occupied Colchester (Camalodunum): for it was there that Boadicea fell on and almost destroyed the Ninth legion. What, then, was the western garrison of the line of which Colchester was the eastern? We have but to draw a line, says Dr. Hübner, across the map horizontally, to strike Gloucester—the key of the River Severn—and he argues that the discovery of the wall there shows it was the place; while the area enclosed by it

shows it to have been intended for a legion. Now, if we turn for a moment from Hübner to Mommsen, we find a very suggestive remark in his summary of the career of Julius Cæsar—namely, that he was the first man who conceived the idea of making great rivers the limits of the Roman Empire. Bearing this in view, I cannot help thinking that in the plan which unfolds itself before us we have an indication of the great master of strategy himself. Cæsar had twice attempted the invasion, and had twice failed. To succeed, certain entirely new strategy was needed ; and this we now see steadily entered on, and kept to for more than a hundred years. The dynasty changed : civil war shook the world from one end to the other : and yet in the steadily advancing horizontal line towards the North in Britain, from the time of Cladius to that of Antonine, we see a policy in the Roman War-office as unchanging as if the will of one man alone had ruled from beginning to end. Broadly speaking, Cæsar came in the year 56 B.C. from the north coast of Gaul, where he had been fighting, to the coast of Kent, with an army of 10,000 men. Knowing next to nothing of the island he chose a spot for his landing where his ships could not be sheltered ; and he failed in his purpose. In the following year he doubled his army, but still chose an unsafe anchorage for his fleet. A second time he failed and lost many of his ships. About 20 years after Augustus prepared to carry out Cæsar's idea, but other events prevented his doing so : and Tiberius was too indolent to undertake it. Caligula made a feint at it : but it was reserved for Cladius to go through with the plan. It is impossible to form any clear or connected idea of the Claudian invasion unless we keep in view the vast changes that had taken place in the interval since the death of Julius Cæsar, and which alone rendered feasible the plan that we next see adopted. First, to conquer Britain, a thorough knowledge of its southern seaports was needed ; and that this was gained by the conciliatory policy of Augustus we have evidence from Strabo, who tells us that the Britons were brought into a state of intimate relationship with Rome. That this intimate relationship gave the Romans a full topographical know-

ledge of the island is plain from Strabo's own description of its traffic. He says that four routes were *commonly used* from the Continent to Britain—from the mouths of the Garonne, the Loire, the Seine, and the Rhine; and that the Rhine was the nearest. The conquest of Northern Germany had placed the entire course of this river in the hands of the Romans: and in a speech which Tiberius made to the Senate in the year 23, as reported by Tacitus, a summary is given of the stations of all the Roman legions, from which we learn that the main body of the army was placed on the Rhine, four legions on the Upper Rhine, *i.e.*, at and above Mainz; and four legions at Bonn and below. In the interval of peace that elapsed after Germanicus had won his victories, it had become possible to spare three legions out of these eight for the invasion of Britain; the Second, the Fourteenth, and the Twentieth, which were afterwards joined by the Ninth from another part of the Empire. This moreover provided, ready to hand, the enormous flotilla of vessels that were needed for the expedition, and ensured their being manned by soldiers fully accustomed to the water; and, what was of vital importance, all the preparations could be made with a greater approach to secrecy than if the ships were manned at Calais or Boulogne. They would ostensibly be for war in Germany. Many people have an idea that the state of navigation was about the same at this period as it had been nearly a hundred years before. Nothing could be more erroneous. Whether from the absorption into the Roman Empire of so many seafaring peoples—Gauls, North Germans, and Syrians (Phœnicians), or from other causes, it is certain that navigation had made a great advance by the middle of the period in question, *i.e.*, the beginning of the Christian era: for at that time a hundred and twenty liners were running every year between the Red Sea and India, very much as the Cunard and other lines of steamers are now running between Liverpool and New York. A commonly-used transit from the Garonne, the Loire, and the Seine, to Britain implies of course a corresponding use of several ports on our own south coast: especially of the great

harbour shielded by the Isle of Wight, which would be the nearest from the mouth of the Seine. That ports as far west as Falmouth and Mounts' Bay were used is shown by the testimony of Diodorus Siculus, and by the discovery in Falmouth harbour of one of the peculiar blocks of tin described by that writer. Given the condition of invading Britain at a period when it possessed no navy, the best base for it by far would be the Isle of Wight, for reasons which shall presently be detailed ; and in the narrative that Dion Cassius gives of the expedition, as well as in Suetonius' life of Vespasian, we find all the facts mentioned tally with the supposition that the Isle of Wight was taken as the starting point. The three legions that were on the Rhine, and which we find employed in the invasion of Britain, were the II., XIV., and XX. Vespasian commanded the II. Suetonius says that when he was a young man he served in Germany, from whence he was ordered to Britain, where he subdued two powerful nations and the Isle of Wight. Now compare this with a remark made by Dion Cassius, that the Romans were checked by contrary winds, but "encouraged by a good omen, the flight of a meteor from east to west, the point towards which they were sailing." A fleet leaving the Rhine and keeping down Channel would be sailing west : so that the notion that they started, as Julius Cæsar had done, from Boulogne or thereabouts, for the coast of Kent, is not tenable. They had a fleet of say a thousand ships to shelter, and incomparably the best harbourage for them would be afforded by the Isle of Wight and the harbours of Portsmouth and Southampton. Dr. Hübner suggests that even the name of the latter, Clausentum, may be a mis-transcription for Claudientum, in honour of the Emperor himself ; but be that as it may, there is no question of the existence of Roman stations and roads from these points : and a few years ago the Queen presented to the British Museum a large brass coin of Tiberius that was dredged up between Ryde and Portsmouth harbour.

There is another line of argument also which points to the Isle of Wight having been the base taken by Vespasian in the Claudian

invasion: and it is this. The record and traditions of such an invasion would be perfectly fresh at the period of the next attack made by the Romans on Britain. This was in the year 296, under Constantine Chlorus, after the ten years rebellion of Carausius and Allectus. The memory of the successful landing place in the former invasion would of course largely influence the choice of the point of attack; and we find accordingly the Roman fleet collected, not at Boulogne, but at the mouth of the Seine—the nearest port for crossing to the Isle of Wight; while the British fleet (of Allectus) *was cruising about the Isle of Wight*, where the Romans came so near it that it was only under cover of a thick fog they slipped past and *landed the invading force in some part of the west coast*, whence they marched to London ("Gibbons' Decline and Fall," chap. xiii.). The strategic advantage of the Isle of Wight, in addition to the safe anchorage of the vast fleet, may be summarized thus: First, the Romans might be certain not to find the main army of Britons on the Isle. They would keep on the mainland to repel the expected attack. Next, if the Britons expecting the attack on the Portsmouth side of the Southampton Water, had drawn up there, the Romans had only to head their vessels to the west bank to secure an unopposed landing. And *vice versa*. Thirdly, if the British commanders, foreseeing this, were to divide their forces into two, one half on each bank, the Romans could mass the whole of their army into one, and beat either half the Britons before the other could come to its help. Dion Cassius hints that they were surprised not to find any large army awaiting them. He says they divided into *three* bodies for the greater certainty of landing. One vital thing would of course be that these three landing places should be within moderate distance of a common converging point, and that each should be in the meantime readily defensible by earthworks, and afford fair foraging ground for the cavalry, &c., attached to each legion. Given the Isle of Wight for a base, and Southampton and Portsmouth as offering two of the landing stations, where is the third? Unquestionably in Poole harbour, with Wareham at its head,

where all these conditions are fulfilled to perfection. Dion Cassius tells us they divided into *three* bodies. If one legion took Southampton, and another Portsmouth, the third would most naturally proceed to Poole, on the ebb of the tide from the Solent. Poole harbour, within sight of the Isle of Wight, admitted of prompt signalling, and afforded full shelter for the vessels, and Wareham between the two rivers at the head of the harbour admitted of secure entrenchments. The three bodies of men so placed would be as near to each other as possible, ready to converge on one spot to march inland at the proper moment. This, it may be objected, is only theory. But we find all the conditions of the narrative are met by it, and we further find in the walls and streets of Wareham the lines of a Roman camp of the period in question, and of area large enough to accommodate a full legion with all its auxiliaries and stores for such an expedition, and abundant pasture for the cavalry regiments we know to have accompanied the German legions.

It will be in the remembrance of the reader of Josephus that he speaks of *four* legions as serving in Britain ; and an inscription found at Winchester (given by Hübner) confirms this. How, then, is this to be reconciled with Dion Cassius' statement that the Roman army was landed in *three* divisions ? for each division would most naturally be a complete army corps, or legion, with its auxiliaries and artillery.

There is further the fact that the Second, Fourteenth, and Twentieth legions all came from the Rhine, where they had been stationed ; while we have no certainty that the remaining one, the Ninth, which we afterwards find in Britain, was at this period on the Rhine at all.

The key to the matter is this. Claudius was very anxious to take part in this conquest of Britain, and his orders to the General in command, Plautius, were that if any difficulty arose he was to send for the Emperor himself. This was done, of course, to humour the Sovereign ; and after the battles of the summer of 43 Claudius was communicated with, and came over on the verge of the autumn of 44.

He timed his journey to Britain so as to spend his birthday at his birthplace at Lyons, where he would receive the assembled States of Gaul on the anniversary of the birth of Augustus in the month named in honour of the latter. He lost so much time in these solemnities that his stay in Britain lasted only sixteen days, during which he received the submission of the Sovereign of Camalodunn (Colchester).

It is not to be supposed that he would come alone, or with a nominal retinue. The Ninth legion consisted of war-hardened veterans, who, originally having served in Pannonia, were ordered to Africa, where they had severe service in the Atlas mountains in the expedition under Suetonius Paullinus, *who was afterwards in Britain*, at the time of the Boadicean revolt.

That the Emperor brought the Ninth legion with him is indicated by its being the one that garrisoned the new city in which the Temple to Claudius was built in honour of the victory over Britain, for it was the Ninth legion that was almost destroyed by Boadicea.

The Ninth legion had been ordered back from Africa some years before this, but an insurrection had broken out there which required the army to be again reinforced. We are not told what legion was now sent over; but it would almost certainly be the one that had become acclimatised to the country, and which was already accustomed to its plains and mountains. The African trouble was over in time to release the legion for the Emperor's festival and the British expedition.

There is further a very singular bit of circumstantial evidence that Claudius was accompanied by this Ninth legion, which would be as readily transported from Africa to Marseilles (to ascend the Rhine to Lyons) as direct from Ostia when once on shipboard.

Dion Cassius tells us that very great preparations had been made for this expedition of Claudius—even *elephants* having been provided. Now an elephant corps, with Moorish drivers, would be as fitting an adjunct to the African legion as to an Indian regiment

of artillery of to-day; while it would be completely out of place and meaningless in the army of the Rhine.

To return, then, to the army of 43 of the Second, Fourteenth, and Twentieth legions it is clear from the fact, now established, of Gloucester being walled *before* either Colchester or London, that it was intended to be the first place secured: *the key of the Severn*. A glance at the map will show that *Wareham is the nearest point to which a fleet could come on the south coast, having Gloucester for its aim*. The latter town is in a line due north from Wareham.

This perfectly agrees with the account in Dion Cassius of the garrison left among the Boduni (Cirencester) and of the great battle fought for two days on the banks of a large river.*

That the *first* campaign was not on the east coast and the banks of the Thames, as suggested by Dr. Mommsen, is so clear from Dion Cassius that Mommsen is obliged to assume the text of the historian to be "corrupt." It is also clear from the entire absence over the district in question of any great fortifications, such as an army invading the island must have constructed, and which we find on such a scale at Wareham, where the camp walls are fifty feet in depth.

But the three legions landing at separate points must have had a common centre to rally to. Where would this be? Most probably on Salisbury Plain, near Old Sarum. Now if we turn to the Ordnance Map of Dorset we find a road running straight from Old Sarum to Badbury Rings, and if we prolong the line it brings us directly to the North Port of Wareham. The name of this road, the Ackling Dyke, is perfectly clear, for the word dyke is the equivalent of the Welsh Clawdd, which also means a banked-up road. Its original meaning (like that of the words dyke and vallum), is that of a cutting or ditch: and in all three cases the words came to mean the bank thrown up from the ditch—Vallum

* If Dion Cassius had intended *the Thames* by this river he would have said so, for he speaks twice in another part of the narrative of the Thames by name. But he did not know the name of the river Vespasian ordered his men to swim. It is plainly enough the *Severn*, the only "large" river near the Boduni who are mentioned in the same connection.

becoming the Welsh Gwal, and by transmission through the Saxon as already mentioned, the English Wall. Ackling is surely Uch Llynn,—Up-pool, that is the Upper-pool road from Sarum, for the name of “Poole” is only the translation of *Lynn*.

More might be added: but I think this evidence is sufficient to convince any one familiar with Roman archæology that Wareham is not only Roman, but in some respects unique, and the most remarkable Roman camp of the first century in Britain.





Mycetozoa.

By A. LISTER, Esq.



At a meeting of the Field Club at Lyme Regis in July, 1891, I had the pleasure of giving a slight sketch of the group of organisms which were formerly classed under the name Myxomycetes or Myxogastres, and afterwards by De Bary as Mycetozoa.

We had before us specimens of the objects themselves, and magnified drawings as they appear under the microscope ; indeed it is only with the aid of the microscope that we are able to study their characters ; and it is owing to their minute size and the difficulty in most cases of following their life history that they have not hitherto been investigated with the thoroughness which has been bestowed on other groups ; otherwise in form and colour and the exquisite beauty of their structure they would present a fascinating object of study to any members of the Club who have leisure to devote to them and who possess a good microscope.

They may be found at all seasons of the year except in frosty weather, but are most abundant in summer and autumn ; some species appear as a crowd of white or yellow globules about the size of small pins' heads, either sessile or on slender stalks, on the surface of rotting leaves or on decayed stumps ; some are in the

DESCRIPTION OF PLATE.

Fig. 1. *Trichia varia*, Pers. Developed from white plasmodium on rotten wood ; elaters with two spiral bands. Spores yellow, minutely warted, $11\text{-}13\mu$. diam.

Fig. 2. *Arcyria punicea*, Pers. Developed from white plasmodium on rotten wood ; capillitium thickened with cogs and half rings, and attached to the persistent cup of the sporangium-wall ; spores pale red, smooth, 7μ . diam.

Fig. 3. *Stemonitis fusca*, Roth. Developed from white plasmodium on rotten stumps ; mesh of the superficial net of the capillitium once to four times the width of the spore ; spores purplish-grey, minutely reticulated, $8\text{-}9\mu$. diam.

Fig. 4. *Physarum leucophaeum*, Fr. Developed from white plasmodium on rotten stumps ; capillitium of slender, branching, colourless threads, with vesicular expansions filled with granules of calcium carb. (lime knots) ; spores violet-brown, nearly smooth, $8\text{-}10\mu$. diam.

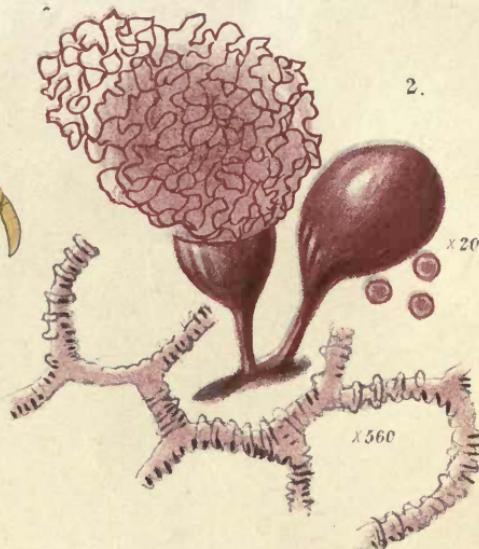
Fig. 5. *Craterium vulgare*, Ditm. Developed from yellow plasmodium among dead leaves ; sporangium shining, cup-like ; capillitium with large white lime-knots ; spores violet, almost smooth, 9μ . diam.

Fig. 6. *Dictyidium cernuum*, Pers. Developed from purple plasmodium on rotten stumps ; sporangium-wall with parallel ribs ; capillitium none ; spores purple-brown, smooth, $4\text{-}5\mu$. diam.

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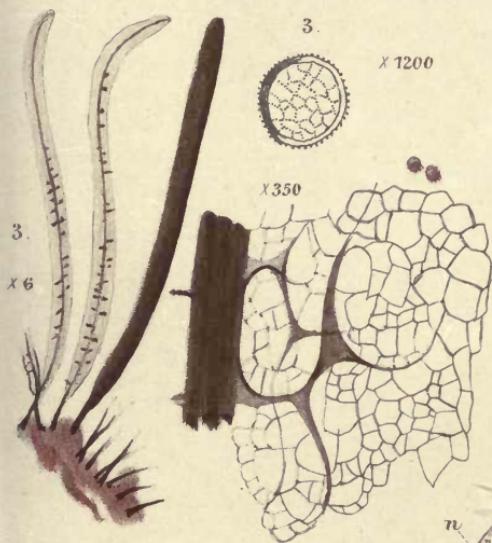


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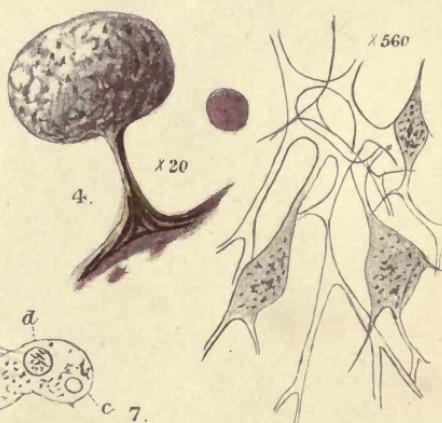
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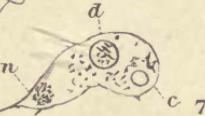


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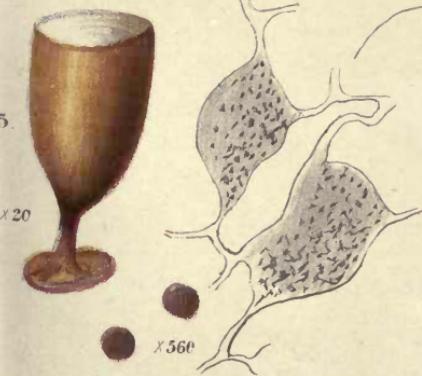
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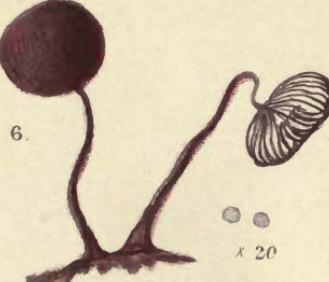
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6.





form of fasciculate clusters of cylindrical columns, others are steel blue or copper-coloured iridescent balls on shining black stalks, others again appear as a crowd of crimson clubs. Although they are usually very minute, yet some species attain considerable dimensions, as in the "Flowers of tan," so called from its frequency in tanpits, which is often aggregated in large masses several inches broad. The group had long been considered to belong to the vegetable kingdom, and was placed with the Gasteromycetes in the family of Fungi; but in 1858 the illustrious De Bary was convinced by his own investigations and those of Cienkowski and others that they possessed characters so analogous to those of organisms universally recognised as animals that he introduced the name of *Mycetozoa* or "fungoid animals," discarding that of *Myxomycetes* or slime funguses as inappropriate.

At this date the manner of germination of the spores of this group was very imperfectly understood in this country. The spores of fungi sprout by throwing out a branching filamentous growth, such as we know in the various kinds of moulds, in mushroom spawn, and only too well in the dry rot that destroys our timber, and it was not suspected that the Mycetozoa differed from fungi in this respect. Even in 1859 the careful observer Currey wrote to the Journal of the Linnean Society that he had noticed the spores of *Cibraria* (one of the group) to germinate by filaments, which united with other similar threads. What he observed was probably a mould fungus attacking the spores. But when we remember that it was only in 1853 that Hugo von Mohl discovered the properties, as far as they were then known, of the simple form of living matter to which he gave the name of protoplasm, "the first formative material," we are reminded how great has been the advance of knowledge on these subjects during the last forty years.

The investigations, however, which were carried on in Germany showed that the mode of germination of the spores of the Mycetozoa was entirely different from what was observed in fungi. It was found that when those spores are placed in water, the spore

wall breaks in the course of a few hours, and an amoeboid body issues as a distinct individual organism ; it soon assumes a somewhat pear-shaped form with a long cilium projecting from the narrow end. This living body has received the name of "swarm cell" from the German word, which would perhaps be more correctly translated "roving cell," but as it has been generally adopted for a large number of similar forms we must be content with it. Immediately behind the cilium is situated the nucleus ; what the function of the nucleus may be is very difficult to say, if indeed it is at all known, but it evidently has an important office to discharge ; behind the nucleus lies the granular protoplasmic substance of the swarm cell with one or more contracting vacuoles such as are common to a whole host of Infusoria. The creature, now free from the spore, swims away with a lashing movement of the cilium or creeps over the slide of the microscope with the cilium stretched out in advance. After some length of time the cilium is withdrawn and the swarm cell takes a globular form, a constriction is soon seen to occur, which increases until the cell divides in two ; in a few minutes both halves assume the shape of the parent cell, which they resemble in every respect except in the size ; this they soon acquire, and they again divide, and so on for a series of such divisions.

At length this process ceases ; the cilia are withdrawn and the swarm cells, which have now vastly increased in numbers, take the form of amoebae with the movements characteristic of those organisms. And now these amoeboid bodies coalesce when they come in contact with each other and form centres, which are points of attraction to surrounding swarm cells which congregate round them and gradually unite to form a mass of naked protoplasm, which has received the name of *plasmodium*. It is seen that in the coalescence of the swarm cells the nuclei remain distinct : they do not merge into each other as is the case in the conjugation of algae.

The plasmodium crawls in the substance of rotten wood or among dead leaves or spreads over and feeds upon woody fungi

which grow on the bark of old stumps. An example of the latter character was exhibited under a bell jar to the members of the Club. It extended over several inches of surface, in a close network of veins with a turgid advancing border. Through this network, as was seen under the microscope, the substance of the plasmodium streams in a rhythmic flow of circulation ; this flow continues for about a minute and a-half in one direction, it then comes to a stand, and immediately the current is reversed and is continued for about the same length of time in the opposite course, but for a somewhat longer period in the direction in which the plasmodium is advancing—like waves in a rising tide.

After remaining in this form for a period of weeks or months, or in some species for a year, the plasmodium throws itself into the graceful shapes and varied structure characteristic of the final stages of the different genera ; in a short time the spores are formed, and the cycle of changes is completed.

De Bary thought that the swarm cells derived their nourishment solely by the absorption of nutrient matter in solution, but it is now found that to a large extent at least they feed on bacteria. The creature projects pseudopodia from the posterior end of the body, to which, as it swims, bacteria become attached and are drawn in and surrounded by a digestive vacuole. I have watched a swarm cell catch three bacilli and convey them to the same vacuole, and in the course of an hour and a-half the bacilli have been gradually dissolved until not a trace of them remained and the vacuole became merged in the granular protoplasmic substance. When a large bacillus is caught a tube-like extension of the body material is often projected, investing the captive, which is sucked in, and in a short time a vacuole is formed round it. On one occasion I had a host of swarm-cells of *Stemonitis fusca* under the microscope which had hatched in about half-an-hour after having been wetted : to these I supplied a drop of water teeming with active bacilli ; two swarm-cells caught hold of a bacillus about five micromillimetres in length at the opposite ends, for 20 minutes they struggled which should obtain possession of

the prize, half of it would sometimes be sucked in by one of the competitors, then the other would have the advantage, at length one of them released its grasp and the bacillus was engulfed by the conqueror. When a swarm-cell crawls along a glass slide it extends itself in a linear form with the cilium extended, with a movement reminding one of a creeping snail, a motion so remarkable that I have often gazed at it with astonishment ; I was once watching a swarm-cell moving in the manner described, when in its journey it came upon a little group of bacilli lying on the glass slide ; the vibrating tip of the otherwise rigid cilium appeared to detect their nature on coming in contact with them, for the creature spread itself in an aneoboid form over the group and remained in this position for a minute and a-half ; it then again extended the cilium and crept away in the linear form. I now saw that three of the bacilli had been taken away and were enclosed in a vacuole in the body of the swarm-cell. After continuing the crawling movement for some time the creature came to a stand, and, raising the cilium from its horizontal position, gave a few lashing strokes, assumed the pear-shaped form, and swam away to join its dancing companions. It is not only the swarm-cells that may be observed to digest solid food. I have seen an advancing wave of plasmodium, of the same species as that exhibited to the members of the Club, invade a growth of a mould fungus that had spread over the side of a glass box in which the plasmodium was cultivated for observation under the microscope ; the cellulose hyphae of the fungus were dissolved by the plasmodium as sugar is dissolved in boiling water. I have fed the same species with a thick scum of bacteria from water in which portions of a fungus had been steeped for several days. The plasmodium was at once stimulated to increased energy, it poured over the scum in a turgid flow, and shortly after numerous vacuoles in the plasmodium were seen to be stuffed with bacteria : these were probably dead for the most part ; before the experiment was made, they were not wholly absorbed as in the case of the swarm-cell alluded to above, and were often seen to

be discharged into the surrounding water by the rupture of the vacuoles.

The observation of the ingestion of bacteria by swarm-cells is of great interest in connection with the remarkable discoveries of Metschnikoff with regard to the white corpuscles of the blood ; he has shown, and his investigations have been confirmed by other eminent workers on the Continent, that the white corpuscles or leucocytes devour the bacteria and microbes which are associated with diseases of various kinds which find their way into the tissues, not only of ourselves but of all animals down to the minute transparent water fleas which abound in our ponds. It was with these water fleas that some of Metschnikoff's experiments were carried on. We are now told that our health depends on the vigilance of the leucocytes in seizing on these invaders and absorbing them in a manner analogous to that we see performed by the swarm-cells of Mycetozoa.

Before proceeding to describe the sporangia or ripe fruits, if we may so call them, which were shown at the meeting of the Club, it may be well to glance at the remarkable process which takes place when the plasmodium changes into these forms. It has for months, perhaps, been wandering among dead vegetable matter, breaking it down by its powerful disintegrating properties and doing its part to convert it into wholesome nutritive material to be appropriated by other growths. When the time comes for this stage to end it crawls out of its hidden recesses to some situation where the spores, when formed, should be most favourably placed for their ultimate distribution. The plasmodium which inhabits heaps of rotting leaves spreads over the under surface of the upper layers where the sporangia will be protected from the rain but will be within reach of drying winds ; that which permeates decayed stumps emerges at some spot where it is sheltered from the sun and can slowly ripen in a moist atmosphere. Some species will crawl up the stems of ferns or grasses to positions of more exposure, but these are usually of a kind which mature very rapidly. The Mycetozoa are divided into two divisions—one in which the

sporangia contain deposits of calcium carbonate, the other without such deposits. Immediately after taking form the sporangia of the division in which the calcareous granules are present in the plasmodium discharge the salt either as crystals on the surface or as amorphous deposits in the sporangium wall and stalk. In some genera the granules are also collected in vesicles connected with a system of threads which branch in all directions within the sporangium from the base to the walls. When the lime has thus been got rid of, and the system of the threads or *capillitium* has been formed, nothing remains but the pure spore-plasma with its host of nuclei, for as the plasmodium has grown the nuclei have multiplied *pari passu*. Each nucleus now gathers round itself just sufficient protoplasmic matter to form a spore of the exact size peculiar to each species ; these take a globular shape and clothe themselves with a coloured wall often beautifully sculptured, or rough with spines, and the whole of the plasma is thus converted into spores. The time required for the full development of the spores from the first production of the sporangia varies from about 12 hours to three or four days according to the species. The capillitium is largely developed in some genera and is absent in others, but when present it is always formed before the spores, and is in no way connected with them.

The drawings exhibited to the Club represented species selected to illustrate some of the more striking genera. Among these I may refer to the following, which are very commonly met with—viz., *Trichia*, *Arcyria*, *Stemonitis*, *Physarum*, *Craterium*, and *Dictyidium*.

FIG. 1 : *Trichia varia*. A very abundant species inhabiting old decayed stumps.

In the Genus *Trichia* the capillitium is composed of free hollow threads, which lie among the spores. These threads, or elaters, are provided with thickened spiral bands, two to five in number, which wind along their entire length, giving a rope-like appearance to the thread. They are very sensitive to moisture, and when breathed upon the unequal thickness causes them to writhe and

twist in all directions, as may be seen if a broken sporangium is viewed under the microscope. When the sporangium wall bursts, as it does on becoming quite mature and dry, this action of the elaters lifts the spores as a loose mass, so that they are easily blown away by the wind.

FIG. 2 : *Arcyria punicia*. In the genus *Arcyria* the dispersal of the spores is accomplished by means of a confined elastic network of capillitium, which, as soon as the sporangium is matured, expands to a bulk many times greater than it occupied before the membranous enclosing wall was broken ; by this remarkable contrivance the spores are freely exposed to the action of the wind.

If a few sporangia of the species figured are brought home while still wet and unbroken and are placed on a sheet of paper in a dry room, in the course of an hour or two the paper will be covered with the red spores for a considerable distance round the sporangia, for the slightest breath of wind carries the impalpable dust.

FIG. 3 : *Stemonitis fusca*. The genus *Stemonitis* shows again a structure beautifully adapted for the dispersal of spores. Here we have no elastic network or twisted threads, but the cylindrical sporangia have stiff stalks which run up the middle, keeping the long column erect ; from this central axis the branching capillitium spreads to the surface, where it forms a net enclosing the spores. The membranous wall, which was at first outside the net, breaks up and disappears as soon as it dries, leaving the spores in an open basket, through the meshes of which they dust out and are carried away by the wind.

FIG. 4 : *Physarum leucophœum*. The genus *Physarum* is a large one, containing species which differ widely from each other in form : while some are symmetrical with long stalks, others are sessile and of irregular shape, but the presence of lime knots or vesicular swellings filled with granules of calcium carb, interspersed among the delicate branching threads of the capillitium, together with, in most instances, a somewhat membranous sporangium wall are pretty constant generic characters. A confusion is often noticed

in collections between the genus *Physarum* and the genus *Didymium*, but with a good microscope the distinction can be at once determined. In *Physarum* the minute granules of lime appear as deposits in the substance of the sporangium wall ; in *Didymium* the lime is deposited in stellate crystals on the outside of the wall.

FIG. 5 : *Craterium vulgare*.

The genus *Craterium* is very closely allied to *Physarum*. The capillitium always contains "lime knots" and the spores are similar to those of the latter genus, but in the species figured the cup-like form and the cartilaginous substance of the outer sporangium-wall, together with the pale calcareous lid, are very distinctive characters.

FIG. 6 : *Dictyidium cernuum*.

Unlike the species hitherto noticed we find in this genus that there is no capillitium penetrating among the spores, but their dispersal is assisted in a very striking manner by the construction of the sporangium wall. This wall consists of nearly parallel ribs running from the base to the apex of the sporangium, connected by numerous delicate transverse bars, like the rungs of a ladder. When first formed the sporangium is globose and the interstices between the ribs are closed by an extremely delicate membrane which breaks up and entirely disappears on drying, so that the compact ball of spores, many thousand in number, lie in an open cage ; they are very minute, about half the size of those usually met with, and quite smooth. What is to prevent them from consolidating into a hard lump ? We observe that as drying begins to take place the ribs bend inwards at the apex and bow outwards at the sides away from the ball of spores within, and as we watch the drying process we see the ball crack in all directions from the gradual downward pressure of the inverted ribs. By this means the spores are prevented from cohering, and break down into a dusty mass which can be blown out through the basket work wall of the sporangium, which looks, when empty, something like a lobster pot with a deeply umbilicate top.

Rostafinski divided the Mycetozoa into nearly 100 genera. Of these a large number contain only a single species, and some might, perhaps with advantage, be united under one head, but as in this paper it is only proposed to review the main features of the sketch given at the meeting of the Club it would be out of place to burden the pages of the "Proceedings" with matter more properly belonging to a monograph.

I only hope more labourers will enter upon this attractive field. It is a question whether there is any branch of natural science, if we omit abstruse subjects requiring a special education to deal with, which offers such scope for original research as the group before us. The life history of most of them is very imperfectly known ; the objects are within easy reach of all those resident in the country. Any fresh district that is searched seems to produce forms of special interest, and members of the Club who are fond of microscopic work and will take up the study may look with confidence to being able to throw fresh light on this remarkable family.





Lulworth Castle.

By MR. WELD BLUNDELL.



THE oldest records of the ownership of extensive property in the neighbourhood of Lulworth, Winfrith, and Coombe give the name of the ancient family of Newburgh, who were created Earls of Warwick by William the Conqueror. They received their name of Newburgh from a Castle in Normandy. A descendant, Roger de Newburgh, founded in Henry II.'s time (1172) Bindon Abbey.

In the reign of Henry VII. Sir Roger Newburgh seems to have held very extensive properties in various parts of South Dorset.

His two daughters, co-heiresses, married Thomas Poynings, afterwards Lords Poynings and Thomas Howard, afterwards Lord Howard of Bindon. The properties were re-united in the person of a descendant of the latter (the Earl of Suffolk), and the bulk of it was purchased in 1641 by Humphrey Weld, of Holworth, Co. Hertford, whose brother, Sir John Weld, of Arnold's Court and Compton Bassett, is the direct ancestor of the present owners. There seems to be some uncertainty as to the exact situation of the seat or castle of the family of Newburgh, but Leland, who describes it as a "goodly place," stated that it was situated near the church. Hutchins' Dorset also says that Tyrrel speaks, in his history of England, of the taking of Lullwarde by Robert, Earl of Gloucester,

in the year 1146. It was probably, therefore, a powerful place and one becoming the position of the family of Newburghs, and may have given the idea of the form of the present castle.

It is known that the present structure of Lulworth Castle was erected upon, and, doubtless, in some measure out of, the remains of a considerable building upon its present site, as there is still to be seen in one of the arches of the cellar in the centre of the castle a fourteenth century moulded window, which has evidently been left *in situ*.

A castle known as Poyning's Castle seems to have been erected upon a commanding situation called Mount Poyning's, about a mile and a-half due west of Lulworth Castle. It was in existence in the 16th century, when it was demolished to provide materials for Lulworth Castle. From its name it is probable that Poyning Castle was erected after these estates passed from the hands of the Newburghs into those of the Poynings, which would give the date of the structure as late as the beginning of the 16th century.

Lulworth Castle was erected about 1600 to 1620. The design is supposed to be by Inigo Jones. The Earl of Suffolk resided there in 1635, but the inside was not completed until after the purchase of the property by Humphrey Weld. In 1643-4 Lulworth Castle was occupied by the Parliamentary forces, who stripped it before their departure of all iron bars and lead.

The park must at that time have been very extensive, as it extended, according to Mr. Coker, to Bindon. A large portion, however, has in more recent years been disparked.

Both James I. and Charles II. were entertained here, and in later days George III. and Charles X. of France after he was exiled from his own country.

The building is an exact cube of 80 feet with a tower in each corner, and the walls are several feet thick, the centre walls in the basement being over seven feet thick. The terraces, or cloisters, as they were formerly called, because they were paved with stone taken from the cloisters of Bindon Abbey, were added in the last century.

The Catholic Church was built by Thomas Weld in the year 1786. It is believed that it was built from designs of his own. It was the first Catholic Church built since the Reformation. The first Catholic bishop of North America was consecrated in this church in the year 1789. It was in 1792, on King George III.'s visit to Lulworth, that Thomas Weld obtained permission to found a Catholic College and bring into England Jesuit professors. He accordingly brought to England Jesuits from a college that had been closed by the Revolutionary forces in Belgium, and handed over to them his seat of Stonyhurst, in Lancashire, which he had inherited from the Shireburns. It was through this family of Shireburn that the well known Louterell Psalter has passed into the possession of the Weld family. This magnificent folio Psalter was made by order of Sir Geoffry Louterell, who died 1299. One of the representations in this Psalter, engraved by Mr. Carter in the 292 number of his "Specimens of Ancient Sculptures and Paintings now remaining in this country," is particularly deserving of attention. An exceedingly interesting account of the Louterell Psalter has been given by Mr. J. Gage Rokewood. He therein says that the MS. is valuable for the illustrations it affords of English manners and customs during the first part of the fourteenth century. The text is what is known as black letter. The gold used in the initial letters and in other parts of the MS. is solid, and often diapered or dotted in burnished patterns. The Psalter was one of the books which, by the constitution of Robert Winchelsea, Archbishop of Canterbury, and Walter Grey, Archbishop of York, the parish was required to provide. The use of the Psalter was that the parish incumbent, with his deacon and sub-deacon, might sing from it on Sundays and chief festivals the Matins, Vespers, and hours required. The priest himself used his portifolium, or breviary; the cantors used the Psalter. The version by St. Jerome seems to have been adopted in this Psalter, as Mr. Rokewood says that the Psalms in the Louterell MS. correspond with the Gallican version. In folio 202, at the end of the Psalms for Matins and before those for Vespers, appears the

name of the personage for whom the Psalter was executed, "Dom. Galfridus Louterell me fieri fecit." Before this appears the miniature already referred to of a magnificent knight bearing the arms of the Louterells. It seems probable that the picture represents Sir Geoffry Louterell of Irnham and Agnes his wife, one of their daughters-in-law, either Beatrix or Constantia. A large number of the miniatures represent sports and pastimes, domestic scenes and husbandry, some depicted seriously, others humorously, and intermingled with religious scenes taken from the Scriptures. Lord William Howard, of Naworth, younger son of Thomas Duke of Norfolk, better known as "Belted Will," added this Psalter to his valuable collection of books. From him it passed to the Widdrington's, with whom they were in alliance. Through their daughter, Lady Charlton, who became the mother of Lady Shireburn, the Psalter became the property of Sir Nicholas Shireburn, of Stonyhurst. On the death of Mary, Duchess of Norfolk, daughter and heir of Sir Nicholas Shireburn, the Louterell Psalter passed with the Shireburn property to the family of Weld, of Lulworth Castle.

In addition to this there are several other works of considerable interest. A missal of the 14th (?) century, which is also very beautifully illuminated, a Prayer Book in black letter, a breviary in MS., and an Old and New Testament in black letter of early date in the version of St. Jerome.

The original seal of the Order of the Cistertians, which is at Lulworth, is not without interest. The Cistercian Order was founded in France in the year 1098. Amongst the first 20 Monks were two Englishmen, who received their education at Sherborne Monastery, in Dorsetshire, and who became second and third abbots. They came in 1128 to England, and it is presumed that this seal is about that date. The seal of William Weld, the direct ancestor of the present family, who was High Sheriff of London in 1352, and who built, it is said, Aldgate, is at Lulworth, and may have some interest for antiquarians.



Captain Thomas Coram and the Foundling Hospital.

By MORTON G. STUART, Esq.

Read at Lyme Regis Tuesday, July 21st.

IIT is related that when Captain Thomas Coram, the founder of the Foundling Hospital, resided at Rotherhithe about the year 1720, his avocations obliging him to go early into the city and to return late, he frequently saw infants exposed and deserted in the public streets, and as there was but one step in his active mind from the knowledge of an evil to a desire for remedying it he immediately set about enquiring into the causes for so outrageous a departure from humanity and natural affection. (History of the design of the Foundling Hospital, with memoir of the founder, by John Brownlow, secretary, 1858.) Captain Coram was born at Lyme Regis in the year 1668. He was a descendant of the Corams of Devonshire; and Kinterbury in that county was for several years the property and residence of the family. His father was apparently by profession a sailor. At Lyme Regis at that time there was a considerable coasting and Newfoundland

trade, and Thomas Coram's tastes were probably for these reasons led in that direction. It is only possible to mention two or three incidents in his career to show that the Foundling Hospital was not the only object which engrossed the sound sense and warm-hearted philanthropy of Thomas Coram or which should make his name illustrious in this his native birthplace.

In the year 1694, then at the age of 26, we find him at Taunton, Massachusetts, occupied as a shipwright. Here the uncivilised condition of the inhabitants was brought prominently before him from the absence of systematic religion, as exercised by the Church of England. He, therefore, by a deed dated 8th of December, 1703, granted to the governor and other authorities of Taunton 59 acres of land for the purpose of erecting a church or schoolhouse thereon, or upon suitable part of it, whenever the people through their vestrymen should desire it.

In 1704 he procured an Act of Parliament for encouraging the making of tar in the colonies of British America by a bounty, by which a livelihood was afforded to thousands of families, besides the million sterling saved to the nation, which before was obliged to bring all its tar from Sweden at an exorbitant price, besides importing it in Swedish vessels.

In 1732 he was appointed one of the trustees for the settlement of the Province of Georgia by George II.

In 1735 he addressed a project to King George II., relative to Nova Scotia. This referred to the settlement of that country by good Protestant families well affected to the King, who should develop the cod fisheries, the best known in the world, as well as the hemp industry. And for the salt required for fish curing he recommended the islands of Exuma and Cat in the Bahama group should be likewise settled for developing this industry. To this petition he appended a list of one hundred handicraftsmen, whose trades and callings were overstocked by reason of the great numbers of artizans and workmen, who resort from all parts to the Metropolis, whereby the petitioners were unable to procure sufficient to maintain themselves and their families. Although

this scheme, in which he was so deeply interested, was postponed for many years, yet before he died Captain Coram had the satisfaction of seeing the full development of his plans.

One other design he had at heart, which at his death was still unrealised. It was a scheme to unite the Indians of North America more closely to the British Crown by the religious education of the Indian girls.

It is with the Foundling Hospital, however, that the name of Thomas Coram will be chiefly identified, and to the present audience I think a brief description of its early history and connection with the Fine Arts may not prove uninteresting.

Having provided himself with a sufficient income to meet his modest requirements, Captain Coram retired from the sea and devoted his chief energies to promoting public interest towards the establishment of a hospital for the support of deserted children. Seventeen years he combated public opinion. "At last," as his personal friend and biographer says, "this good man, whose head was fertile in expedients, bethought himself of applying to the ladies. He knew their nature, he knew their influence, and soon found he was on the right road. They did not listen much to his arguments, for the sweetness of their tempers supplied a tenderness that rendered arguments unnecessary." At last on Tuesday, November 20th, 1739, was held at Somerset House the first general meeting of the governors and guardians appointed by His Majesty's charter of the hospital. The first admission to the hospital took place in 1741; the number being limited to 20 children. As the hospital became more widely known as many as a hundred women might be seen scrambling at the door to be one of the few for whom benefit could be granted.

To obviate this a system of ballot was devised; red, white, and black balls were placed in a bag in due proportion to the number of applicants; every woman who drew a white ball passed into a room where she was examined; each woman who drew a black ball was instantly excluded; and those who drew red balls were kept waiting to take the place of those who drew white balls, but

whose cases, after investigation, proved to be unsatisfactory. This system continued in operation for 15 years.

The public, who had been so difficult to move previously, now through their governors erred in the other extreme, and opened the door to wholesale abuse of an originally philanthropic scheme. They wished to throw open their hospital on the most unrestricted plan, and petitioned Parliament for the necessary funds. A new method was adopted, which was to hang up a basket outside the doors of the hospital bearing the announcement that all children under the age of two years would be admitted. Accordingly on June 2nd, 1756, the first day of this plan of general reception, 117 children were given up to the fostering care of the State. Such an easy method of ridding themselves of destitute children was a boon not likely to be long enjoyed by the ratepayers of the Metropolis alone. Residents in the country soon strove to avail themselves of these benefits. For this purpose a business sprang up to meet the object. A man on horseback, going to London with luggage in two panniers, was overtaken at Highgate, and, on being asked what he was carrying, answered "I have two children in each pannier ; I brought them from Yorkshire for the Foundling Hospital, and used to have eight guineas the trip, but lately another man has set up against me, which has lowered my price." But Captain Coram had, ere this, withdrawn his name from the list of governors. It was not until the first years of the present century that that body adopted the plan, which has been adhered to ever since, of careful examination into the necessities of the case before granting admission of a child into the hospital. But though errors were committed in the early years of the institution no body of men could have been influenced by more patriotic feelings than the governors of the hospital at various times. In 1761, during the war with Germany, in 1794, during the Peninsular War, and at the period of Waterloo they freely opened the doors of the institution to the necessitous children of those who had fallen in the war.

The connection of the Foundling Hospital with the Fine Arts forms an interesting chapter in its history. Cunningham says

“Before the birth of Hogarth there are many centuries on which we relied wholly on foreign skill. With him and after him arose a succession of eminent painters, who have spread the fame of British art far and wide.” The student, who wishes to gain some idea of the early school of British art, will find the rooms of the Foundling Hospital an excellent starting point from which to commence his investigation. The reason of this was largely due to Hogarth, who, from the first, cordially co-operated with the Founder’s aims; he was elected a governor, subscribed liberally, and painted several works for it. In May, 1740, Mr. Foulkes acquainted the governors that Mr. Hogarth had presented a whole length picture of Mr. Coram for the Corporation. Writing of this picture Hogarth says “The portrait, which I painted with the most pleasure and in which I particularly wished to excel, was that of Captain Coram, of the Foundling Hospital, and if I am so wretched an artist as my enemies assert it is somewhat strange that this which was one of the first I painted the size of life, should stand the test of 20 years competition, and be generally thought the best portrait in the place notwithstanding the first painters in the kingdom exerted all their talents to vie with it.” In 1740 the governors commenced erecting the present pile of buildings on the piece of land which they had recently purchased from the Earl of Salisbury. Then it was that Hogarth, with the co-operation of other professional artists, proposed to commence the decoration of the walls with works of art. For this purpose they formed themselves into a body, which should meet on the fifth of November, to consider what further embellishments should be added to the hospital without expense to the charity. In this was apparently the germ of the famous Dilettanti Society, and it is recorded in a document headed “Dilettanti, Virtuosi, Feast,” that on November 5th, 1757, no less than 154 persons of distinction dined together at the hospital.

The donations in painting increased, and, being exhibited to the public, drew together daily a crowd of spectators in their splendid equipages, and a visit to the Foundling became the most fashion-

able morning lounge in the reign of George II. The *éclat* thus excited in favour of the Arts suggested the annual exhibition of the united artists, which institution was the precursor of the Royal Academy. In 1750 Hogarth opened a lottery for a celebrated picture he had then painted, entitled "The March to Finchley," in the time of the rebellion, 1843 tickets were sold, and 157 he presented to the hospital, amongst which the lucky number was found, and the picture duly handed over to the institution. It is curious to note that the foundation of a Public Academy of Arts, which was the very thing Hogarth set his face against in theory, should have been encouraged by the actual course he took more than by any other.

But it was not from the disciples of the palette and the paint brush alone that the hospital reaped such rich benefits ; the leaders of the sister art of music at that period were none the less generous. Of these Handel, who had so identified himself with English tastes, was the chief. On May 4th, 1749, he attended a committee and offered a performance of vocal and instrumental music, the proceeds of which were to be devoted to the completion of the building. The *Gentleman's Magazine* refers to this entertainment as follows :—"The Prince and Princess of Wales, with a great number of persons of quality and distinction, were at the chapel of the Foundling Hospital to hear several pieces of vocal and instrumental music composed by George Frederick Handel, Esq., for the benefit of the foundation. (1st.) The music on the late fireworks and the anthem on Peace. (2nd.) Select pieces from the Oratorio of Solomon relating to the dedication of the temple. (3rd.) Several pieces composed for the occasion. There was no collection, but the tickets were at half-a-guinea, and the audience above a thousand. For this Handel was immediately enrolled as one of the governors. During every year, until his powers failed him, Handel superintended personally the performance of his favourite Oratorio, the Messiah, in the chapel, and these performances are said to have produced a sum of not less than £7,000 for the institution.

On the completion of the chapel he further presented a very fine organ, which may still be heard there, which he opened personally on May 1st, 1750—when the concourse of visitors was so great that the performance was repeated 15 days afterwards. The audiences on these occasions, it was stated, were conveyed in no less than 800 coaches and chairs.

From this exceptional generosity on the part of Handel the governors fancied he wished to present them with the copyright of the Oratorio of the Messiah, which they would have to secure to themselves by an Act of Parliament, and accordingly one of their number waited on him for this purpose. On ascertaining the object he had come for Handel is said to have exclaimed in his broken but forcible English : “Te deivel, for vat sal de Foundling put mein Oratorio in de Parlement. Te deivel, mein music sal not go to de Parlement.” At the death of the great musician the following bequest was found amongst his papers :—“I give a fair copy of the score and all the parts of my Oratorio, called ‘The Messiah,’ to the Foundling Hospital.”

I have been acquainted with the Foundling Hospital for several years, and whilst I was preparing this paper I wished to correct my memory on certain points. Accordingly I visited it again on Sunday, July 12th. By a curious coincidence it was Founder’s Day, the chapel was crowded to overflowing, the Lord Mayor was present in semi-state, the Duke of Cambridge occupied a seat in the governors’ pew, the Bishop of Ripon was the preacher, the Hallelujah Chorus was played as the concluding voluntary on the organ, on which Handel had so often played himself. Twelve Foundlings, having reached the age of 21 years, and having borne a good character whilst within the walls of the hospital, and since they had left it, four of the men bearing Her Majesty’s uniform, were present, as is the custom, to return thanks to Almighty God for having been brought up to the estate of manhood or womanhood, and to receive subsequently in the principal hall a gratuity of £5 a-piece from the general funds, which was duly presented to them by the Duke of Cambridge. The number of children

supported within the walls at the present time is about 500. Towards the close of his life Captain Thomas Coram was found to be in straitened circumstances, having spent almost all his wealth in his care for others. Fortunately friends of public spirit came to his aid. When Dr. Brocklesby asked him if he would be offended by a public subscription being opened for his benefit, Coram replied, "I have not wasted the little wealth of which I was formerly possessed in self-indulgence and vain expenses, and am not ashamed to confess that in this my old age I am poor." Thomas Coram died on the 29th of March, 1751, at the age of 84, requesting that he might be buried in the catacombs beneath the chapel of the hospital. Great numbers of the governors were present at the funeral; the choir of St. Paul's attended voluntarily. An inscription recording his merits was placed on the exterior wall of the chapel, and a statue by Marshall was placed in the quadrangle abutting Guildford Road.

In bringing this paper to a conclusion I think it is only right to state that it was written for the evening meeting, held on Tuesday, July 21st, at Lyme Regis, the birthplace of Thomas Coram, and was not intended to be placed in this volume. It was only at the wish expressed by members of the committee for arranging the contents that I was led to do so. The information is chiefly derived from the history of the Foundling Hospital by John Burroughs, secretary.

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Notes on the Manor of Fordington.

By H. J. MOULE, M.A.



IN these days, when Parish and Manor histories are in fashion, and deservedly so, the Manor of Fordington and its ancient and now obsolete system of tenure should not be overlooked. The notice in Hutchins' History of Dorset* is very short. It is as follows: "This luxuriant and extensive Manor contains upwards of 4,000 acres of arable, meadow, and pasture, and is divided into 65 tenements or livings, denominated in the court-rolls places and half places, which are held under the Lord of the Manor by grants for lives. Of the above 4,000 acres about 1,300 are annually sown with corn, and on the remainder are fed 4,912 head of cattle." Hutchins further records that at the beginning of this century a proposal to enclose the Manor was made by the officials thereof. But at a meeting of tenants at the King's Arms, Dorchester, in February, 1801, this proposal was negatived. Here ends my borrowing from Hutchins. For a mass of the details which follow I am indebted to my friends, Mr. Hayne, Mr. Legg, and Mr. Hunt. In 1842 it was decided that the system should be changed. The Council of the Duchy of Cornwall, of which Duchy, an appanage of the Prince of Wales, the Manor is a part, resolved to refuse all

* Third Edition, vol. ii., p. 287.

applications for "renewing lives." By this means the whole Manor gradually fell into hand ; the process being complete in 1873 or 1874. The "whole places," "half places," and "farthing holds" were done away with, the whole 65 of them. The "Fordington Field," to be presently described, was divided into four farms, besides the Church Farm, which was partly glebe held under the Lay Proprietor, and partly "Duchy land." Three large farmsteads, each with an extensive house and cottages, were built. Wire fences were erected bounding all roads and dividing farms from each other. Another great and more recent change may be passingly noticed. Formerly the "Duchy" always refused, but are now willing, to alienate land lying within the borough bounds, either as freehold or on building leases. The first freehold thus acquired was Heathcote Lodge, bought by Mr. W. Galpin in 1875.

But it is the old system with which we have to do. We may take Hutchins' notice, quoted above as a framework, on the lines of which to arrange what seems suitable for record in the transactions of the Dorset Field Club. And at the end we may notice what is known about the early history of the Manor, little enough unfortunately.

In the first place, then, Hutchins calls the Manor "luxuriant," a somewhat odd adjective to apply to a tract consisting greatly of light chalk soil. He is right enough, however, in calling the Manor "extensive," but it is strange that he does not give the least hint of the curious nature of its extension. Old Dorchester, constituting the borough before the enlargement of its bounds in 1836, consists of three parishes, Holy Trinity cum Frome Whitfield, St. Peter's, and All Saints. Then the curious point is that the Manor of Fordington encircles the whole of these three parishes except an isthmus of about 100yds. wide, uniting the two parts of Holy Trinity parish. As far as I know it is a unique instance of three parishes being all but embedded within the bounds of a fourth parish. Parish, I say, for the Manor of Fordington, together with a few curious isolated little freeholds, and the portions alienated

for building, &c., of late years, with the glebe and the Liberty of Bindon, is co-extensive with the parish. The Liberty of Bindon consists of Fordington Mill and part of Mill-street. There are curious particulars connected therewith, but we cannot speak of them now. Nor can we, within the bounds of a paper on the Manor, make any attempt to master the obscure history of those isolated freeholds, such as Loop's Land, Mayne Land, and Cistercian Land. The last, at least, probably a possession of Bindon, was tithe free. On the other hand these freeholds carried no pasture rights like those inherent in the copyhold. This mere word must suffice on this curious bye-subject.

In "The Mayor of Casterbridge" Mr. Thomas Hardy likens three-parish Dorchester, within its rectangle, its Roman rectangle, of regular "walks" of trees, to a box-edged garden bed. Round this garden bed Fordington Manor may be in like fancy called a wide encircling grass plot—a 4,000, or more exactly 3,097 acre plot. It gave occupation to a good many gardeners, that grass plot. It is not certain, as far as I know, but certainly likely that each "tenement or living" had in early times its separate copyholder. These would number 65, according to Hutchins. But Mr. Hayne tells me that these tenements consisted of the following:—

* Whole Places,	each containing 40 to 60 acres	— 15	
Half Places	" "	20 to 25 "	— 31
Farthing Holds	" "	13 to 15 "	— 21

making 67 in all. As was sure to come to pass, however, these small properties, like leaves floating in a stream, had a mutual attraction. For instance, the late Mr. Hayne possessed three whole places, five half places, and three farthing holds. On the other hand some copyholders, or tenants of copyholders, to the last held quite small acreages. Mr. T. Sibley thus held a single half place. And in my boyhood it was a tenant who, in white smock and with the yoke on his shoulders, used to bring us our milk. I have called the tenants copyholders and thereby defined their

* Mr. Legg's recollection slightly differs as to these numbers. He makes the numbers : 8, 30, and 21 respectively.

tenure to some extent. Each copyholder held his land, large or small, on three lives. On the termination of a life he went to the next Manor Court and applied for leave to "put in" another life. This was granted on his paying a fine, varying according to size of the holding and, probably, with reference to age of the person whose life was to be "put in." For instance, my friend, Mr. Legg's grandfather, paid on one occasion £92 10s., on another £111, on his copyhold of three half places and a farthing hold. Now these fines formed the whole profit of the Lord of the Manor—a small and very fluctuating income truly. On the other hand the Lord of the Manor spent nothing whatever on land or buildings. The properties (for so I hear them called) thus held were looked upon by the holders as quite secure. They could sell them, just as Ulster tenants buy and sell farms. Subject to fine for renewal of a "life" the properties were considered as safe as freeholds, and they were dealt with accordingly. In my younger days there were twelve farmhouses and homesteads in Fordington, each the headquarters of a copyhold property. Like the farms, the farmhouses varied in size. Some (most) of the smaller ones are improved away, others survive as cottages. But those thatched roofs sheltered good men and diligent farmers. One I can see now—the very man he was to sit for the picture of one, one of the old time. And all these houses and all these farm buildings were built and kept up by the respective copyholders; and so was the only fencing on the Manor—viz., that of the closes and of two or three large grass lands as mentioned above. Well, this long-standing customary tenure had no solid legal foundation whatever. The Council of the Duchy of Cornwall, who manage this as all other parts of the Prince of Wales' estate as Duke of Cornwall, were perfectly within their rights in altering it. But it may be imagined that it was no small shock to the copyholders when it was announced to them in 1842 that no more lives would be renewed. An offer was made at the same time that if any copyholder chose to surrender his property an annuity would be granted to him by the Duchy—of what proportion I do not know. By this surrender in some cases, and

lapse of lives in the rest, the Manor fell into hand completely in 1874, and was, as above-said, divided into a small number of farms let in the usual way.

I have now to ask you to picture to yourselves, if you can, the extraordinary way in which the 3,097 acres, arable, simple pasture, and water meadow were shared out among the holders, whether 67 as perhaps of old, or 12 more recently. The arable land consisted of Fordington "Great Field," containing, roughly, 1,500 acres. It was divided in theory, not by fences, into four regions in some degree coinciding with the present farms. The regions were Poundbury, Middle, Castle, and Lower Fields. We have said that in old times, pre-railroad times, there was not an inch of fence throughout this expanse, roadsides or anywhere ; nor, indeed, was it fenced from the down which bounded it on the west. How was it marked out, then, among the many farmers ? Was it centuriated as past doubt it was far back by the methodical Roman agrimensores for the Italian coloni ? Was it squared out, as then, into solid blocks of land with a limes, a boundary road, bordering each ? Far enough from that. Yet it seems not impossible that the very different and far more minute division done away with in 1874 may have grown out of the Roman centuriation without any actual break. Sub-divided truly it was. The Great Field was parted into an infinity of " lawns " varying from 17 acres down to 27 perches, or perhaps even less. The tithe map gives the number as upwards of 2,000 in the whole Manor. Some idea may be formed from the lawns possessed by Mr. Legg's grandfather. His three half places and farthing hold comprised more than 90 lawns, which must have averaged hardly an acre each, it would seem. The lawns were separated by " walls," not fences in any sense, but banks, or rather strips about 1ft. wide left unploughed. What was the use of that may be asked, for, of course, that 90-lawn farm lay all in one place ? The fact was as different from this as it could possibly be. The lawns of a farm might be, and usually were, scattered all over the Great Field from Loud's Road right away to Maiden Castle and round to Poundbury. The

mapping of a farm looked most extraordinary, spots of land in all parts of that great expense. And all the corn had to be carried to the homesteads in Fordington except a little to the one outlying homestead, Damer's Barn ; for none was stacked on the land. It may have been partly owing to the great carrying distance, not less than $1\frac{1}{2}$ mile in some instances, that a custom arose in Dorchester with a view to give a hand to the Fordington farmers. It died out generations ago, but it must have had a wonderful charm of neighbours in it. When two thirds of Dorchester were burnt, in 1613, at first there was scarcely a man in the town to do anything against the fire. Why? Because they were one and all in Fordington Field helping with the harvest. This homely, neighbourly custom did not survive within the memory of man, I think ; certainly not within my own. Besides the long carriage of much of the corn and clover-hay home, and of manure outwards, there was another peculiarity in great field farming. Owing to the absence of fences there was also an absence of root crops. One usual rotation was wheat, barley, clover. It was usually, or always, arranged among the farmers to have an infinity of neighbouring lawns under one class of crop. There would be the Lower Field, perhaps, mostly in wheat one year, and Poundbury Field in clover, tares, and pease. Poundbury Field would then be the "Garden Field" of that season. Owing (I suppose) to want of root crops the Duchy tenants kept no sheep ; but they took on sheep belonging to neighbouring farmers, who paid at the rate of 1s. per sheep for the autumn grazing from Sept. 21st on the stubble, clover, and downs. Each whole place gave the right to take on 120 sheep. Another branch of this right will be spoken of immediately. Dairies the tenants had, and this leads me to say something of the pasture and meadow hay arrangements. In and adjoining the village of Fordington are a good many enclosed grass fields. These are the "closes" which appertained to the various copyholders. In some cases the closes were adjoining to the respective homesteads, sometimes not so. Each copyholder had the exclusive use of his closes all the year round. Such,

however, was not the case with any other grass land, not even the few freehold grass lawns. As on the Great Field and Downs in autumn, so, as hinted just above, did neighbouring farmers send sheep on partly other lands at other seasons. The spring grazing for sheep of the East Ward for March and April was let by auction and the proceeds devoted to work on river banks, carriers, floats, and other parts of the water-meadow system, with repair of meadow fences. Then, from July 1st to September 21st, the farmers had right as above to take on sheep to graze on Poundbury Down and North Down. This was called "half-stock" grazing, the autumn stubble grazing which followed it being "whole stock." Then, as to hay. After the spring grazing in East Ward it was watered and laid up for hay. Now comes in the "Hayward," one of the Duchy officials, who may here be passingly noticed. Besides the Hayward there was the "Reeve" or local steward, the "Foreman of Great Field," called also foreman of the Homage, whose duty, *inter alia*, it was to report the lapse of "lives," and the Constable. These were chosen yearly at the Manor Court. Their profits consisted of holdings of land. The hayward had 1 acre 3 roods 18 poles, the reeve 3 acres 17 poles, and the constable 4 acres 2 roods 20 poles. The Hayward's standing duty was to pen strays in the great Manor pound, which in my early days had massive oak palings. Then at harvest time he controlled the leazing. He rode about Great Field looking for and chasing off trespassers. No leazing was allowed till all the lawns were carried. Then at evening he went through Mill-street and elsewhere with a bell, giving notice that the leazing was open. A great affair that old Duchy leazing was. A friend has given me a graphic account of how his mother, on hearing the leazing bell, used to sew up her apron for carrying the gleanings, bundle him and the rest up to bed, and then the whole of them would turn out at two next morning under the stars and away to Great Field; and their leazing often yielded six bushels of grain. But besides penning and leazing the hayward had, as his title tells, to do with the hay. Under the reeve he staked out the East and West Ward lawns every spring. For they had not,

indeed in water meadow could not have the “walls” of the arable land. Each of the copyholders or their tenants made and carried the hay of his own lawn or lawns. From the East Ward, bye-the-bye, the waggons went through a deep ford. The aftermath grazing of the one or two freehold meadow lawns, equally with those on copyhold tenure, was common to all copyholders. But this aftermath in the East and West Wards was by no means the only common pasture. Through the summer, from May 12th, the copyholders, their tenants, or others renting only cows’ grazing, sent their cows into Fordington Moor, to which pasture a rest was given by shifting the cows to Poundbury when thought needful. The copyholders had these cow-grazing rights in proportion to their holdings. A whole place carried right for three cows, for instance. I need hardly say that this part of the system involved great picturesqueness. Every sort of cow there was, from the old-fashioned brindled up to good shorthorns. The herd amounted to 154, tended by a cowherd. He received 1d. a week for each cow if only one came from its owner, but 1½d. for every two if so many or more hailed from one homestead. I well recall J. King, cowherd through great part of my boyhood, asking my father if he could not put in a word in favour of his getting the full 1d. a head. This, to his moderate thinking, “ood a med he a rich man.” While the cows were on Poundbury my remembrance is that John, and I suppose other cowherds in their time, bivouacked there all night in a shelter of strawed hurdles. “Mutato mutando” we may say of that abode on Poundbury, as Pepys did of the shepherds on Salisbury Plain—“the cowherd’s life was, in fair weather only, pretty.” Little remains to tell except that the affairs of the Manor were conducted as to local matters by the reeve above mentioned. And a Manor Court was held by the steward of the Duchy of Cornwall yearly in November at the Court House. This stood near Fordington Green on the present site of a pair of houses called Victoria Villas. At this court, down to the early years of this century, the copyholders did homage for livings by presenting a silver spur. No one will be surprised that the old Manor had a tendency

to the evolution of "characters." Besides the reeve, the hayward, the foreman, and constable (Duchy officials), there were the cowherd, already spoken of, and also the shepherd. They were so mixed up in Duchy work that I think the outside public took them to be "Duchy folk" like the others. I have said what the cowherd's work was. The shepherd was employed by those neighbouring farmers, or some of them, who paid for spring, summer, and autumn keep for sheep on grass or stubbles. I think that a new series of Wessex tales, all true, might be written by Mr. T. Hardy, by diligent gathering and gleaning, even now, and all about "Duchy folk." I feel certain that his neighbour, my friend, Cornelius Thorne—last hayward but one—could help him out with a good tale or two, and as to Nat Seal—last shepherd—and his father before him, there is plenty yet floating about to fill a small book. I am not going to forestall Mr. Hardy. Certainly not, for your sake and his. Yet I may tell two little bits about Nat which concern myself. Nat was a great man at fairs and cattle shows. These last in my early boyhood were held in Salisbury Field, adjoining my old home. One show came round at a time when Nat had a jet black lamb which followed him everywhere in friendly company with his two dogs. I was looking at this group and so was everyone. Nat, on the other hand, was looking at me. On glancing up I could see in his eye what he was thinking—"Parson's son—take a bit of a rise out of you, sonny; see if I don't." Some one said to him: "What kind of a sheep-dog d'ye call thik there?" "Sheep-dog, good-now. Tell ye what, er've got un's black ewoat; blest if I dwunt larn 'un to read and make 'un a parson." I would not tell this of Nat but that I can cap it with another little story, showing that there was a soft place in that rough heart. Quite in Nat's last years I had returned to Dorchester after long living elsewhere. I went up to see Poundbury Fair. There was Nat with his old dog and his crook, with its spiral woodbine-grooved shaft, afterwards left as a legacy to Mr. Burnett, his benefactor. Of course I spoke to Nat. "I be middling, thank ye; but, there, I can't call your name to mind." "Moule," said I. "Moule!"

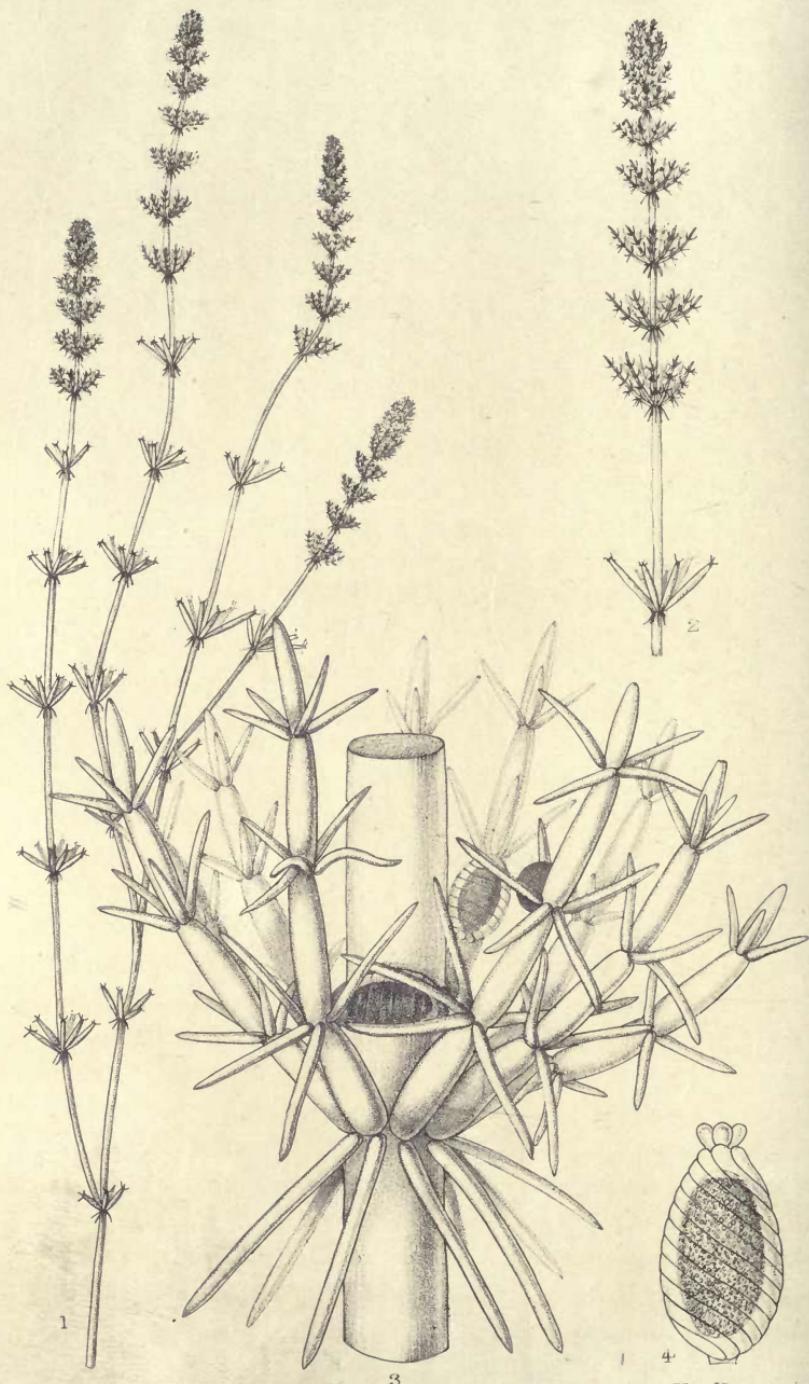
Now you dwunt go to tell I that you be any ways belonging to our dear wold Parson Moule?" "Yes, his son." "Parson Moule's son! So 'tis, and I not to mind ye." Whereupon he snatched my hand and kissed it, there in the middle of the crowd.

Here ends what I know and have gathered about the system and folks as I remember them. As to the history of the Manor in remote times, as bearing on that system, I can say almost nothing. Of course you will ask what Domesday tells us. I cannot, and what is more, Eyton seemingly cannot, quite answer this: "Rex tenet Dorcestre et Fortitone et sutone et Gelingeham et Frome." There is the difficulty. These royal demesnes are all grouped together, and we cannot say what portion of the particulars about them belong to Fordington specially. "In dominio sunt vii. carucæ et xx. servi; et xii. liberti et cxiiii. villani et quater viginti et ix. bordarii habentes xlxi. carucas." That is all we know. As a conjecture I would hazard the idea that the whole places, half places, and farthing holds, in a degree, represented the holdings of the Fordington villani, bordarii, and liberti of Domesday, respectively. And these Domesday holdings, I think we may suppose, were sub-divisions of the 10 or 12 Roman "Centuriæ," the "limites" of which, doubtless, lasted on to the end of the Latino-British Dominion, which died here in Dorset very hard indeed. Further, I venture to ask if Great Field, with its theoretical divisions of Poundbury, Middle, Castle, and Lower Fields, and its customary cultivation of these fields, in their crowd of lawns, each with one class of crop in rotation, may not have been an actual survival of the Saxon "Out Field," and the "closes" of the "In Field." My idea is that the "Garden Field" above described represented the bare fallow whereby the Saxons rested the land. But this by the way. The Manor appears to have been first granted away as a fief by King Henry II. In after times it seemed to gravitate to the Earldom of Cornwall. In King Edward the First's time, Edward, Earl of Cornwall, held it. It passed in the next reign to Piers Gaveston's widow. King Edward III. annexed it again to the Earldom of Cornwall and Principality of

Wales ; but it was granted away to various persons for their lives. Lastly, King James I. granted to Prince Charles, which grant is still in force.

So much have I set down about the Manor—its system and its history—“ Well rid of it,” you may think, “ both system and story about it.” I say not a word for the latter ; no, nor for the former either. I know my place too well—here “ *au fin du siècle*.” Brand new is the only excellent quality in everything. Just so. Yet, as I say this, I see pleasant sights of the old Manor in long past years. A vast many neighbouring lawns would be in wheat, as we have said. What a picture I see—half-a-mile or more of waving gold, with not a fence to break it. And then, in harvest, as old Augusts shine again in fantasy, what trains and processions of loaded waggons bear down on the village homesteads from all parts of Great Field. Yes, and I see myself leazing among the neighbours, on the stubble of it ; my spoil going to some old woman of the scattered busy crowd. Again, what snug quiet little homesteads those waggons made for—deep thatched roof all round the bartons, thatched roofs on several of the farmhouses. But most clear is the picture of that great herd of cows sauntering home at evening from the Moor, through Fordington Ford, below the Mill. Never was anything of the kind more picturesque than the hundred and fifty-four of every colour of the species *bos*, coming through that wide shallow, past some tall trees, past a high-pitched thatched farmhouse. There is no great herd now, no ford. The trees are gone, and as to the thatched house, there is a Methodist Chapel instead. All is well, let no one accuse me, these remembrances notwithstanding, of that evil crime, *laudatio temporis acti*.





R. Morgan del. et lith.

West, Newman imp.

1. *Lamprothamnus alopecuroides*. Braun.
2. Branch, twice nat. size.
3. Whorl, much magnified.
4. A nucule.



On the Occurrence of *Lamprothamnus alopecuroides*, Braun, in Dorsetshire.

By the PRESIDENT.

(Read at Dorchester on February 10th, 1892.)

WE are indebted to our fellow member, Mr. W. B. Barrett, for the discovery of this very rare Chara, for which only one other British locality can be claimed. Mr. Barrett gathered a few fragments of it on the shore of the Fleet in the autumn of 1889, which he submitted for identification to the Messrs. Groves, the eminent authorities on the family Characeæ; they decided it to be *Lamprothamnus alopecuroides*, and asked me to procure it for them in a living state, instead of a shore derelict. As the season was advanced I deferred doing so until the succeeding autumn. Having obtained from Lord Ilchester the kind loan of his swankeeper and one of his boats, I dredged from the Decoy to Langton Herring in company with Mr. Nelson Richardson and the Rev. R. P. Murray, where we disembarked and

carefully searched the shore, as it was here Mr. Barrett had found a few detached fronds of it rolled up with the prevailing *silkweed* (a Desmidea) which abounds at the upper end of the estuary. Below Langton Herring, where the proportion of salt water prevails, the *silkweed* is displaced by the common seaweed *Alga nodosa*. The tide as it ebbs and flows deposits in this *bight* the floating material passing to and fro.

Taking the *silkweed* for our guide, we returned to the upper end of the estuary, and after dredging that part of it for more than a couple of hours we at last hauled up the living plant, in full and luxuriant fruit.

Lamprothamnus alopecuroides, Braun. monœcious. Stem from three inches to a foot long, not much branched ; the distance of the internodes from each other diminishes towards the summit, where the whorls are much crowded ; in some cases there are as many as seventeen whorls within a space of two inches, giving the head the appearance of a fox's brush, which probably suggested its specific name. The whorl-branches on the upper part of the plant are much reduced in length and number, consisting of one cell only ; except near the base, where they consist of two or three cells, are placed endways, the terminal one finishing off in a sharp point, furnished, like the other two, with three short stipulodes. The base of each whorl is furnished with a circle of bracts. It is smooth, destitute of spines, and papillæ, not incrusted, and hyaline when devoid of chlorophyll. The branchlets of the rhizome are exceedingly delicate and thread-like ; some of them bear at the nodes one or more minute unicellular bulbils, with two or more bract-like appendages. After dessication the plant becomes extremely brittle.

The family of *Characeæ*, which is aquatic, is a small natural order of vascular acrogens, whose affinities with other Orders have not been satisfactorily determined. Some botanists have supposed it to be a degenerate Phanerogam on account of its dioecious- or monœcious character, approaching in this respect *Najas*, *Hippuris*, *Ceratophyllum*, &c. ; others find a place for it among the

Algæ on account of the arrangement and disposition of the tubular cells, which are similar to the confervoid Algæ generally. Zittel takes this view (Handbuch der Palæontologie, II. Abtheilung Palæophytologie, p. 40). Professor Sachs would place it in a separate group, so widely does it differ in his estimation from every other family. It is divided into two sub-families, *Charæ*, including *Lychnothamnus*, *Lamprothamnus*, and *eu-Charæ*; *Nitellæ*, including *Tolypella* and *Nitella*. No other group of plants has a wider distribution than the *Characeæ*. They prefer a temperate or even a cold climate. One species has been gathered on the Andes 15,000 feet above the sea-level. The stems of *Characeæ* vary from a few inches to three feet in length; they contain an abundance of chlorophyll, and are composed of a series of cylindrical cells placed end to end, consisting often of a single tube, or a cell surrounded by several smaller ones. Many contain so much carbonate of lime in their organisation, independent of the calcareous incrustation, that they effervesce on the application of acids after dessication. Some of them, such as *C. hispida*, have longitudinal striae with a spiral tendency. These striae, especially in the case of the subgenus *Chara*, turn like the worm of a screw from right to left, while those of the seed-vessel turn in the contrary direction. The circulation of the fluids in the cells is plainly shown in those plants which, like *Lamprothamnus*, have no incrustation. The currents proceed in a more or less spiral direction, rendered visible by the grains of chlorophyll, which the currents carry with them. This circulation is carried on between the two membranes, which compose the cell-walls, the current passing on one side and returning on the other, move in a spiral direction. Simple verticillate or branched whorls rise from the axis of the leafless stem at each node, varying in number and repeating in a modified form the development of the stem. The verticillate branches of the *Charæ* bear the reproductive organs on their inner faces, while those of *Nitellæ* are borne at the base of the furcations at their distal ends. These reproductive organs are of two kinds and always in separate bodies—the

globule, which is supposed to represent the male organ, and the nucule the female. Their relative position to each other differs in each genus. In the *Chara* the globule is placed below the nucule ; in *Lamprothamnus* the globule and nucule repose side by side; while in *Lychnothamnus*, which is dioecious, they are on separate plants. In *Tolypella*, which is monoecious, the globule lies at the forkings of the branchlets, and is surrounded by nucules more or less numerous. In *Nitella* the globule rests above the nucule in the forkings of the branchlets of the plants which are not monoecious. The *Characeæ* are reproduced both sexually and asexually. In the former case the organs of reproduction do not correspond with those of *Thallophyllæ*, *Muscineæ*, or vascular *Cryptogams*. The nucule of *Chara vulgaris*, which may be taken as an example of the group consists of a seed-vessel, enclosed in a membranous brittle envelope, around which are five spiral cells, surmounted by five smaller ones ; these cells pass from right to left, in a direction the reverse of the stem and branchlet-cells, and contrary to their course of circulation. Each seed-vessel contains only a single germ ; when young it is of a green colour, but when mature becomes darker, and connected only by its brittle envelope ; when disengaged it shows a dark shining body. The structure of the globule is more complicated ; it is green in fruit, and turns to red or orange when mature, which is principally owing to the small red granules it contains. The asexual reproduction of this family is effected by three methods : the most general is by bulbils, situate at the basal node of the rootlets ; the reproduction by the two other methods is by spores which spring from the base of the verticillate branch, and do not require any special notice. The stem of the *Chara* is usually striated or furrowed, more or less hispid, and very fragile after dessication. The internodes consist of a central tube, covered with a series of smaller tubes, which entirely envelope them. The whorls of the branchlets have a series of involucral papillæ at their union with the stem. The stem of *Nitella* is smooth and flexible when dry ; the whorls have no involucral papillæ at their base, and the branchlets are forked at the summit. This section of

the group grows most favourably on siliceous and aluminous soils; less so on limestone or chalk; and in this respect it differs from *Chara*. It will be worth while to examine the liassic and other clay districts of the county for *Tolypella*, which has as yet escaped notice. The roots of *Characeæ* are in the form of a rhizome, which like the stem is articulated, the internodes being simple cells. The plants are attached to the soil by very fine and slender rootlets. It does not appear certain that the reproductive bulbil, the cells of which are densely filled with starch-granules, are restricted only to certain species of *Chara*. I have found them in *Chara fragilis*; in *Lamprothamnus alopecuroides* they are unicellular and exceedingly small. In *Chara fragifera* the bulbils are distributed freely over the whole plant. Until recently these plants had been found only in a fossil state in the Tertiary formations; they have lately been found in the trias (muschelkalk) of Moscow in the Jurassic and the chalk. It is remarkable that all the species which have been found in a fossil state agree completely with the living forms, not only in size but in structure also, and especially in the fruit which are usually well preserved. It must be consequently admitted that during the lengthened duration of its existence the type has not undergone modification. Well preserved impressions of *Chara* are rarely met with, this may be easily explained when we take into consideration the delicacy of its structure. The seeds on the other hand are frequently met with in the Tertiaries; but owing to the detachment of the coronula, it is impossible to distinguish the genus to which they belong. Mr. Clement Reid found at Hoxne, in Suffolk, the seeds of *Chara* associated with fossil water-plants. The types are similar to those of Iceland at the present day. The seeds of *Chara* have been found, it is said, in the dirt-bed of the Upper Purbecks, associated with *Cycads* and *Conifers*, as well as in the Middle of Purbecks of Lulworth.





Notes on Dorset Lepidoptera in 1891.

By NELSON M. RICHARDSON, B.A., F.E.S.

I PROPOSE in this paper to give a short account of the entomological work done during the past season by Mrs. Richardson and myself, which has been almost entirely confined to the Lepidoptera, or butterflies and moths, though I have done a little also in some other orders, but not enough to deserve much mention.

I do not think that the season's campaign can be considered to have commenced much before May, early in which month I made several expeditions to some woods situated at a distance of a few miles from Weymouth. The species which was the special object of my search was *Steganoptycha subsequana*, a little moth which was figured in Vol. XI. of our "Proceedings," and which I have found in these woods for three years, but always in very small numbers. The wood contains various kinds of fir trees, besides oaks, &c., and more than one species of fir is frequented by this moth, the larva of which is not yet known. It is very local and occurs chiefly in one small spot in the wood, which does not appear to differ from many others where the moth seems almost entirely absent. I have generally taken the greatest number of specimens in the early afternoon, though there certainly is a natural flight at dusk, at which time, however, I have captured but very few, owing to the



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EUPŒCILIA GEYERIANA, larva and food plant PEDICULARIS PALUSTRIS.

Helen M. Richardson delt et pinxt.

Cambridge Engraving Co.

difficulty of seeing such small dark objects in the gloom of the evening. At this time, so far as my observation goes, the little moths fly at a distance of six or eight feet from the ground near the lower branches of the firs, and very possibly also higher, amongst the upper portions of the trees. When disturbed in the day-time they generally fly out of the tree, flutter round it a little, and return to its shelter; but sometimes, especially on cold days, flutter or fall straight down to the ground, when it is almost impossible to secure them. Besides my own captures of this rare species the only British ones that I know of have been made by one person in a locality somewhere in the London district, and two or three specimens have occurred in Norfolk. Probably it will be found elsewhere when searched for patiently, but its early appearance and the apparent scarcity of individuals no doubt cause it to be unobserved in other parts of the country.

In these same woods occurs later on in the year, in July and August, another uncommon species, *Mixodia rufimitrana*, the larva of which feeds on the shoots of the silver fir, many of which trees are seen in June and the early part of July to have the needles spun together at the tips. These moths are also rather hard to obtain, as they fly in the late afternoon most wildly round and round the tops of the trees on which they feed, and which are 20—30 feet in height. Occasionally one flies rather lower than the rest and is captured, but to do much execution among them a longhandled net is necessary. *Mixodia ratzeburghiana*, which is nearly allied to but much commoner than this species, also occurs here a few weeks earlier in the season. Of other fir-feeding species I have taken here *Asthenia coniferana*, *Coccyx nanana*, *C. hyrciniana*, *Retinia buolianana*, *Ocnerostoma piniariella*, *Batrachedra pinicolella*, *Macaria liturata*, *Thera variata*, *Trachea piniperda*, &c.

Besides these one specimen of *Gelechia lutulentella*, a species then new to the county, occurred here in July, 1890, on a small patch of heath, one being also taken in that year by Mr. E. R. Banks in Purbeck, where it has again occurred in some numbers in 1891.

Coleophora therinella was also a new addition to the county, when I first (in 1890) found the larvæ feeding here on thistles (*Carduus arvensis*), in the leaves of which they make conspicuous blotches, the specimens referred to in Mr. C. W. Dale's "Lepidoptera of Dorset" as this species being *Col. onosmella*. I have this year found this species in other woods in the neighbourhood of Weymouth, but considering the extreme abundance of its food plant, it is extraordinarily local. It seems to flourish best in rather shaded positions, though I have found it occasionally in open spaces.

In one part of the wood *Col. therinella* is very much persecuted by great numbers of spiders, which spin their webs all over the thistles. Though the larva lives in a strong silken case, the spiders manage to extract it, and I have seen the unfortunate caterpillar being carried off by them for food. It is doubtless owing to this that one sometimes comes across untenanted cases. In the great majority of instances these cases would drop to the ground when the larvæ are pulled out of them, so that the spiders must eat many more larvæ than the number of empty cases actually found.

I must not omit to mention here *Gelechia malvella*, now a somewhat scarce species, but formerly common in gardens amongst hollyhocks, on which the larva fed. These plants are not now so much grown, owing probably to the disease to which they are subject, and the moth is consequently rarer. Under thoroughly wild conditions the larva feeds on the marsh mallow (*Althaea officinalis*); and in the seeds of this plant, which grows here and there on the shore of the Fleet, near Abbotsbury, I found larvæ in September, 1890, and bred a few of the imagines in 1891. I am not aware that it has before been observed in this county except in Mr. Dale's garden at Glanvilles Wootton.

In two parts of these woods occur some large junipers, which are doubtless indigenous, as on the adjoining down juniper occurs mixed with the gorse, but being unenclosed, it is eaten by the animals which graze there, and does not grow to a height of more than two feet or thereabouts. The only species that I have found

on the juniper have been *Eupithecia sobrinata* and *Hypsolophus marginellus*, though in Purbeck, where bushes of juniper occur in similar circumstances, *Argyresthia dilectella* is also found. The latter is a common species on this plant, and its absence from the Weymouth locality whilst it is present in Purbeck is curious. I doubt if any of these species occur much on the down outside the wood, and it is probable that at one period, before the woods were planted, these moths had a severe struggle for existence on the exposed down, and the little *Argyresthia* could not hold its own. On the other hand it may be that the juniper and its two attendant moths were introduced together to the Weymouth locality at a comparatively recent date, quite independently of the Purbeck plants, though this has not taken place within living memory.

In these woods there have been for the last two years a great many wasps, which infest the fir trees, especially perhaps the silver fir and spruce, to such an extent that one wonders that there is any other insect life about them. I tried to discover what the wasps were engaged upon when slowly winging their way along the fir shoots and occasionally settling on them, but I could not see that they did anything more than this, though I watched one for some time on several occasions. I think that they go there for the sake of the resinous matter which exudes from the leaves and branches, and it would seem as if they did not take much notice of the caterpillars and other insects, of which there are a good many on the trees.

Before leaving the neighbourhood of these woods, I must mention the capture therein of a rare neuropterous insect, *Nothochrysa capitata*, and of another rather uncommon Trichopteron, *Hemerobius concinnus*. I have a strong impression that I found a larva of the first named in the same locality, on account of the superficial resemblance which it bore to the perfect insect with the exception of the beautiful network wings. It is now in the pupa state, so that I hope to see the imago this year. I have to thank Mr. C. W. Dale for naming these two insects for me.

About three years ago I first took amongst hawthorn in my neighbourhood an *Eupithecia*, which turned out to be *E. dodoneata*, before that time known almost exclusively as an oak species, the only record of which I am aware being one of pupæ found under moss on hawthorn. It occurs at Glanvilles Wootton amongst oak, but not commonly, whereas I have sometimes found it abundant along a hawthorn hedge in my locality. It has this year been very scarce, but I have bred it from hawthorn, the egg being laid on the outside of the flower bud, like those of *E. coronata* and *pumilata*. The larva feeds in the flowers as long as it can get them, after which it takes to the leaves and pupates below the surface of the earth, emerging in the following May.

A very handsome, though not large, species, *Plutella annulatella*, was until 1887 known to occur at Portland only from the capture of a few specimens by the Rev. Adair Pickard. In that year I took a specimen on September 20th and have since then taken a few annually in July. Last year I found the larva feeding on scurvy grass (*Cochlearia officinalis*), and as I succeeded in breeding some of the imagines I had an opportunity of noticing the habits of the larvæ. I have not observed the egg, which is no doubt laid on the buds of the *Cochlearia* in April or May by the hybernated female. The larva is hatched about the middle of May, and begins at once to feed inside the petals of the flower, drawing them together with a few silken threads. It is then very small and very active, green in colour with minute black spots, each emitting a black bristle, the head especially presenting a remarkable appearance under the microscope, owing to the number of black spots and bristles on the green ground colour. It does not alter much in appearance during its larval life, but retains to the end the characteristic points I have mentioned, in which it bears considerable resemblance to its near relative *Plutella cruciferarum*, better known to non-entomological readers of the newspapers as "The diamond-back moth," which, always an abundant species in gardens and elsewhere where *Cruciferæ* grow, did not, so far as my knowledge extends, occur last year in more than its ordinary

numbers in Dorset, though it appears to have caused such destruction of crops in some other parts of England.

The larva, whose life history I am tracing, soon gets too big for its flower and begins to eat the neighbouring flowers, seeds, seed-capsules, leaves, and even stalks if it can get nothing else, and always spins a slight web in the flower head to conceal its presence, which it manages to do very effectually, thanks to its green colour. If touched or much disturbed it rushes out of its silken habitation and on arriving at the ground often begins to jump and dance in a most extraordinary fashion ; or occasionally changing its tactics pretends to be dead, and curls itself round with its head to its tail, when it looks very like a small leaf of its foodplant. When full grown it leaves the plant on which it has fed and spins in some convenient spot a beautiful oval rather boat-shaped cocoon attached to a stone or other object, in which it turns to a pupa, emerging in July after about three weeks. The moth seems to be of retiring habits and to seek its winter quarters after a month or two of liberty, as, with the exception of my first capture, I have never seen it abroad after the early part of August.

At the beginning of July I went over to Bloxworth, at Mr. Cambridge's kind invitation, in pursuit of *Tinagma betulae*, a species which has only been lately discovered and described by Dr. Wood in Worcestershire. A figure and short history of this species are given in Vol. XII. of our "Proceedings," so that I need not again allude to the interesting mode of life of the larva. Mr. Cambridge and I took a good series of the imago, as also did Mr. Eustace Bankes, who had been there a week or so before. I also found the work of the larva at Whatcombe in September, so that the species is probably widely distributed in the county amongst birch. Whilst I was staying at Bloxworth Mr. Cambridge shewed me the place in which he had found the imagines of *Eupaecilia geyeriana* in some numbers in the previous year, and I was fortunate enough to discover in the seed-capsules of the loose-wort (*Pedicularis palustris*), which was growing in profusion in the locality, a few larvæ, which I felt sure must belong to that species.

I found them very hard to rear owing to the difficulty of preserving the plants in anything like a sound condition, but some of the larvæ being nearly full-fed when I got them I luckily succeeded in proving their identity by breeding one moth. It is interesting to note that *Pedicularis* had been suggested as a probable food-plant for *Eupæcilia geyeriana* no less than 17 years ago by Mr. C. G. Barrett, but in spite of this the larva had never before been detected. From some plants which Mr. Cambridge afterwards sent to Mr. Bankes one moth also emerged. The egg is no doubt laid on the bud or in the flower of the food-plant in June, when the moths, generally rather few in number, first make their appearance, and the larva bores into the seed-capsule and feeds there. It apparently moves from one capsule to another, as I occasionally found a capsule with the seeds partly eaten and with a hole bored in the outer covering not large enough for the exit of a full-grown larva. When nearly full-fed it sometimes feeds upon the capsules from the outside and eats the case as well as the seeds, as in one instance I found that a larva had eaten about half the capsule itself and was feeding upon the remainder. When full-fed (about July), it descends to the earth and spins a thick silk cocoon at or just below the surface. The bulk of the moths appear to emerge early in August, which was the case with the specimen that I bred; but here a difficulty occurred to me, as it has doubtless to others, as to what the larva could feed on in August—certainly not the seed-capsules of *Pedicularis*, for they are all gone, and Mr. Cambridge tells me that the plants (which are biennials according to Sowerby) are gone also. Under these circumstances it was with extreme interest that I found that one of my larvæ, which had spun itself up in a strong cocoon, was still unchanged some time after the emergence of my moth, which I ascertained by opening the end of the cocoon, and on subsequent examinations on Oct. 13th, 1891, and Feb. 9th, 1892, I found that the larva was still alive and healthy and had not turned to a pupa. It is perhaps too much to speak with certainty from this single instance, but it appears to give us the key to the difficulty I have mentioned and to shew that

certain individuals, probably the latest in spinning-up of the brood which is full-fed in July, remain in the larval state in a hibernating condition until some time during the ensuing spring, when they change to pupæ and emerge in the following June to perpetuate their species. The rest of the brood of July larvæ change to pupæ within a few days of spinning-up and emerge in August. It must be remembered that the apparently larger numbers of the August emergence would be influenced by the fewer perils to which these individuals are subject compared to those which pass the winter as larvæ. This state of things is known to exist in some of the larger moths in which those which appear in autumn are generally, if not always, infertile. I am not aware that it has been observed amongst any of the smaller species, including the family *Tortricina*, which contains the subject of this note, but it may, no doubt, if confirmed by subsequent observation, explain other cases in which there now appear to be two broods in a season, especially some other species of this genus.

I append a description of the larva which I have also sent to the Ent. Monthly Magazine (E.M.M., xxvii., 239) :—Length, 6 lines ; shape, decidedly stumpy, the head being only about half the breadth of the middle segments, the width of each segment increasing gradually up to the 5th, after which there is but little alteration of breadth up to the 12th, which is narrower, the 13th being still more narrow and about equal in breadth to the 2nd ; the transverse section of the body would be nearly circular.

The head is polished, very dark greyish brown, nearly black, with a reddish tinge about the jaws ; plate on 2nd segment like the head, but somewhat mottled with a lighter shade of the same colour and with a lighter brownish dorsal line ; ground colour of larva generally a very light greyish brown, but sometimes distinctly pink, rather darker above the spiracles, especially in the first few segments. The dorsal vessel shows through as a rather darker brown dorsal line. The usual warts are large and conspicuous, though not much raised, those near the head being of the colour of the plate on 2nd segment, whereas the rest become gradually

lighter towards the anal plate, which resembles in colour the warts in its neighbourhood. An inconspicuous brownish hair springs from a minute black spot in the centre of each wart; legs, dark greyish brown; edges of spiracles intensely black and solid looking under a microscope, but hardly visible to the naked eye; hooklets of claspers nearly black, claspers of the neighbouring ground colour. (See accompanying coloured plate of moth, larva and food plant.)

Mrs. Richardson was fortunate in taking on July 10th the sixth specimen of *Epischnia bankesiella*, which seems to occur regularly at Portland, though we have never taken more than two in a season—viz., two in 1887, one in 1888, two in 1890, and one in 1891. It does not appear to have yet been found in any other part of the world.

Of *Tinea subtilella*, which has not yet been recorded from any other part of the British Isles, six specimens were this year taken by ourselves and two by the Rev. C. R. Digby when at Portland with me in August, making, with last year's captures, 16 specimens in all. Had the weather been more propitious I think it probable that this insect would have been taken in greater numbers. The same remark applies to other species which the very bad weather has made it difficult to obtain.

Agrotis pyrophila was not seen at Portland at all this year, though in 1890 it was taken more abundantly than has been the case during my collecting there, which extends now over six seasons. This has the character of being a scarce and uncertain species in its appearance, and the numbers taken by me in the years 1887-91 fully bear this out. They are roughly 1, 15, 1, 25, 0 for the five years.

Two more moths I have to record new to the county; one is *Psecadia decemguttella*, of which I found the very pretty black, blue, and yellow larva feeding on *Lithospermum* in a small copse near Weymouth last September.

Of the other, *Stephensia brunnicella*, after considerable search I found in the latter part of September, some pupa cases and mines of the larvæ which had fed during the summer in the leaves of

Clinopodium vulgare, which was growing in abundance in one of Mr. Mansel-Pleydell's woods at Whatcombe. I also observed whilst there some black linear *Nepticula*-like mines in the leaves of the same plant which were tenanted by a small larva, certainly not a *Nepticula*, but doubtless the young larva of *S. brunnichella*, which would hibernate during the ensuing winter and emerge as a moth in May. These woods are most attractive in appearance, entomologically as well as picturesquely, and with favourable weather would doubtless prove productive, but with the exception of a little collecting done in June, 1890, by Mr. Digby and myself and that done in September last, I am not aware that they have been explored by entomologists, so that most of their treasures are still hidden from human eyes.

It is a curious coincidence that Mr. Cambridge should have taken for the first time at Bloxworth last May a moth which he was unable to determine satisfactorily, but which he found when on a visit to Oxford in November to be *S. brunnichella*. This, of course, takes precedence of my discovery of the species at Whatcombe in September.

The season of 1891 appears to have been a bad one almost everywhere and the entomological results small, so that on the whole I have been more fortunate than many of my neighbours. I have hardly alluded to the work of the other entomologists in this county, of which they will no doubt record the more important portions themselves. Each year increases the difficulty of adding to the number of species of Lepidoptera new to Dorset, as we have already a good list, the result of continuous observations extending over nearly 90 years. The same amount of work is now required for adding one new moth which 50 years ago would perhaps have added a dozen, and this is equally true of other scientific knowledge, so that we must not expect much, but be content with the little success that falls to our lot.



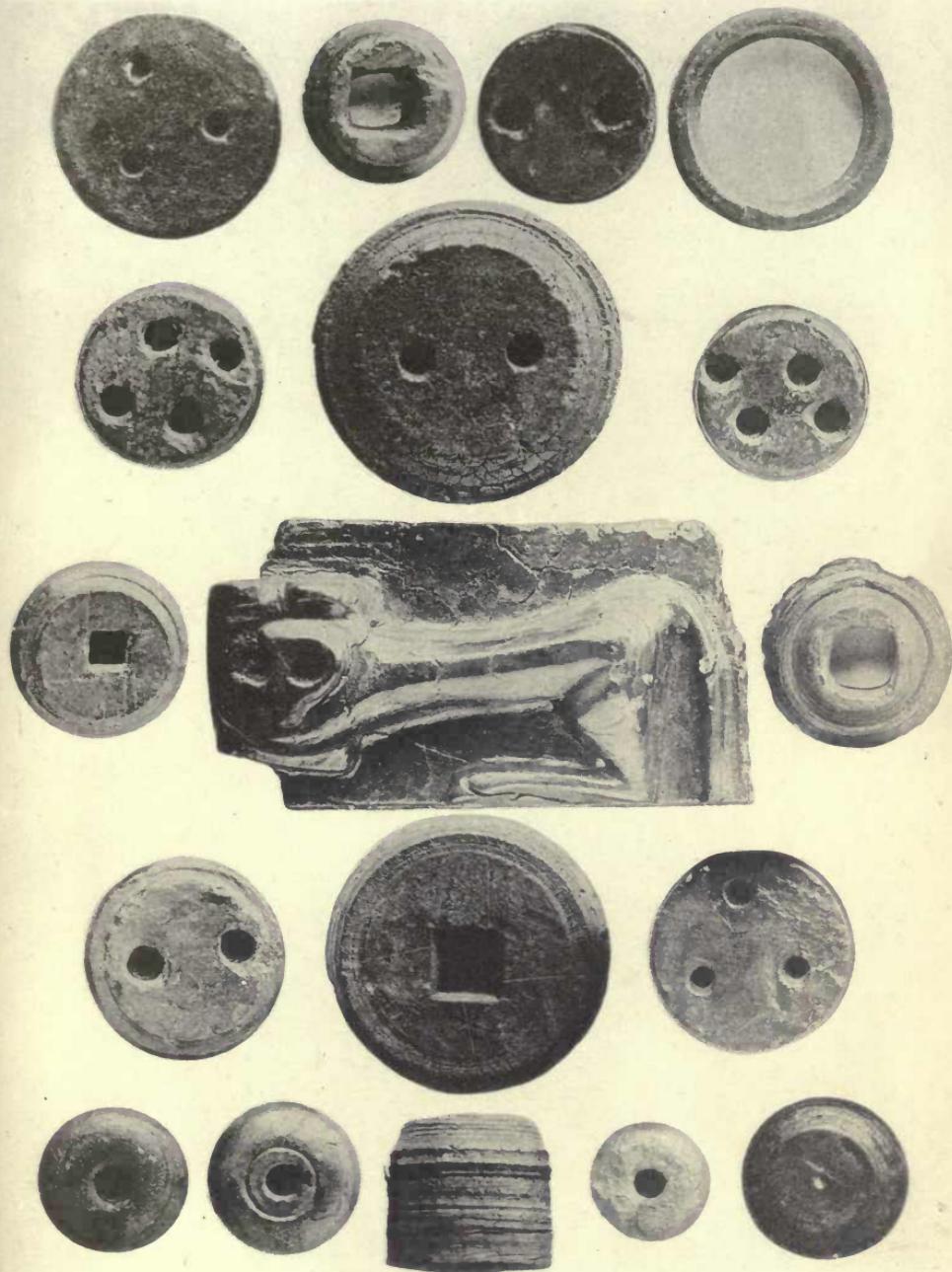


Kimmeridge Coal-Money and other Manufactured Articles from the Kimmeridge Shale.

*Read before the Members of the Dorset Natural History and
Antiquarian Field Club.*

By J. C. MANSEL-PLEYDELL, Esq., J.P., F.G.S.,
F.L.S.

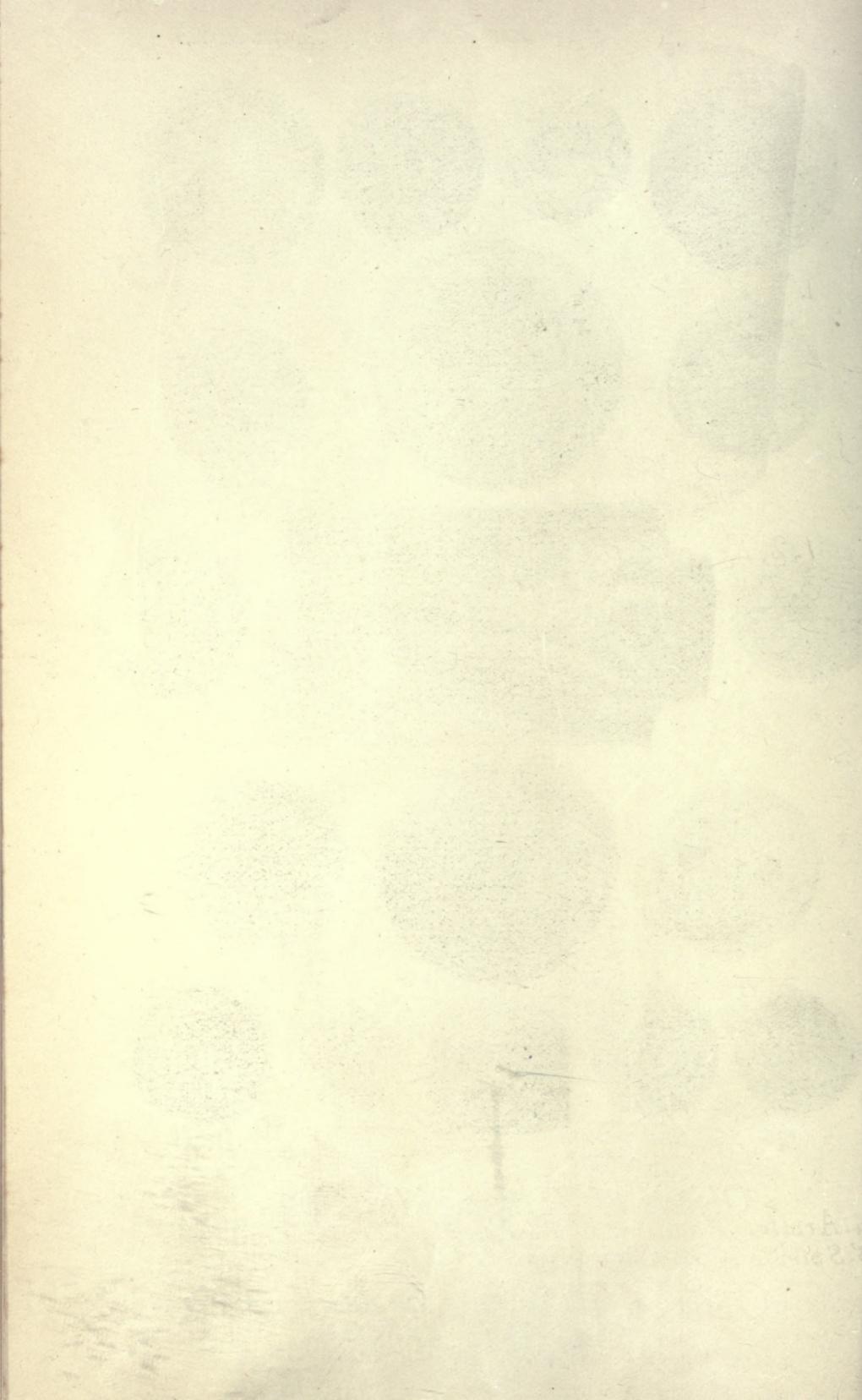
HUTCHINS in his remarks on the Kimmeridge coal-money says that Sir Richard Colt Hoare described it to be an interesting relic, and said that "the antiquary who endeavours to ascertain or investigate its original use treads upon unknown and mysterious ground." It is now generally accepted that instead of having been expressly made for money or any other purpose, it is merely the refuse or waste piece from the lathe. This so-called Kimmeridge coal-money is made from a bituminous shale, extensively developed at the little village of Kimmeridge which has the honour of giving the name to this section of the upper Portland series. It resembles jet, but differs in being inorganic. The discs vary in



Objects of Kimmeridge Shale.

From the collection of the late Mr. Durden.

*Carved Figure of a Lion, Armlets, Ring, and several
Discs (coal money).*





1.



3.



2.

Scale $\frac{1}{2}$

1,2, Feet of a Stool(?) South St. Dorchester.
3, Fragment. Use unknown. Dorchester.
Hogg Loan Collection.



4.

Scale $\frac{1}{2}$.

4. Armlet. Fordington. Presented by the late Rev^d H Moule.
5. Spindle-whorl. Bagber pottery-site. Presented by J.C Mansel Pleydell Esq.

Objects of Kimmeridge Shale.
Dorset County Museum.

their diameter from one and a-half to two and a-half inches ; they are pierced on both surfaces, one having one, two, three or four holes, which do not penetrate very deep ; there is only one central-hole on the other side. The two faces are never of the same dimensions ; the one bearing the central hole is invariably the smaller of the two. This difference varies with the thickness of the piece, which, when considerable, gives it the appearance of a truncated cone. The face on which the square hole is pierced, as well as that on which there are two or three smaller round holes, shows how they were attached to the mandril of the lathe. The sides of the coal-money are usually marked with sharp-cut lines, where the cutting instrument met the piece in its revolutions on the wheel. Those having a single square hole are generally marked with three or four straight lines, which reach to the circumference, but do not correspond with the angles, giving the impression that the distal or piercing end of the mandril was smaller in diameter than the proximal end ; thus the workman's adjusting marks became less and less conformable with the edges of the square the deeper the mandril penetrated. Where there are three holes they are arranged equilaterally and the three lines meet at the angles. Pieces with two or four holes are comparatively rare. One of the earliest notices of coal-money, perhaps, is in the *Gentleman's Magazine* for 1768, where it is described as being generally found on the tops of the cliffs, two or three feet below the surface, enclosed between two stones set edgeways, and covered with a third, the enclosure containing a quantity of pieces of coal-money, mingled with a few bones of animals. The writer adds that they are occasionally found in the adjoining lands, near the surface, but only where the ground has been made. Antiquarians even in those early days considered them to be relics of the Roman period, but whether amulets or money they were not agreed. The writer further adds it is not probable that they were amulets, for the amulets described by Mr. Camden differ from the coal-money both in form and material, being chiefly globular, or cubical, with a hole pierced through them ; while those described by Mr. Stukely were of

glass, amber, or stone. Mr. William Augustus Miles, stimulated by Mr. Hutchins' short notice of these objects, commenced a systematic search in the year 1826, and under the guidance of a labourer of the neighbourhood, he examined Flower's Barrow, a Roman encampment on the summit of the chalk-cliffs of Worbarrow Bay, which is separated from Kimmeridge Bay by the limestone headland of Gadcliff. The east side of Worbarrow Bay is composed of the Wealden and Purbeck beds. I notice this, as it will bear upon what follows further on. At Flower's Barrow Mr. Miles found some animal remains, pieces of pottery, a few marine shells, and several rounded stones or pebbles from the sea shore. These were all lying at the summit of the cliff, associated with black-mould, and some pieces of highly-glazed pottery" (pseudo-Samian). Among this curious assemblage Mr. Miles found a piece of Kimmeridge shale, upon which were traced, with mathematical precision, both circles and angles; the centres of the circles were marked as if indented by the points of a compass. He found no coal-money in kistveins as described by Hutchins. The fishermen of the district told him that the coal money was formerly much more abundant, and that several large pieces of Kimmeridge shale had been found on which they affirmed were some kind of characters engraved, but owing to the friability of the material had been obliterated. One of the causes for finding the coal-money less frequently than now may be attributable to the encroachments of the sea by the crumbling away of the cliffs and atmospheric disintegration. At least one-half of Flower's Barrow has been swept away into the sea below. The thigh-bone of a human skeleton was seen by fishermen projecting from the face of the cliff at Worbarrow Bay; having climbed to the spot they found it to be an interment, and, hoping to find some hidden wealth, they demolished the rude tomb and hurled the bones down the precipice. The interment consisted of two ranges of stones set perpendicularly supporting two other flat-stones, which served as a cover, and not unlike a drain or gutter. An urn, which contained coal-money and on which rested the humerus of the skeleton,

was unfortunately destroyed. Further researches made by Mr. Miles in the neighbourhood of Kimmeridge Bay resulted in the discovery of a kistvein, the foundation of which was composed of large stones or sea-pebbles from the neighbouring shore. It contained bones and broken pottery, portions of vases or cups of different sizes and shapes, which were generally shallow and wide at the top. There was a large admixture of black rich mould and a quantity of coal-money, varying in size and thickness. Occasionally Mr. Miles found fragments of Kimmeridge shale, which had apparently been left by the workmen in the course of preparation for the lathe, or cast aside as useless. He especially mentions one piece upon which a circle was marked and a centre point visible, similar to a piece he had found at Worbarrow ; there was also a circular paten of granite. A pentagonal-shaped kistvein was discovered on the cliffs of Kimmeridge, four feet long, three feet broad, and a foot and a-half high composed of several large flat-slabs of Kimmeridge shale, placed perpendicularly, and supporting larger ones, which formed the roof ; within the chamber was a coarse *patera* of red brick-earth, mixed with pieces of white and yellow clay. This rude pottery had only undergone a partial heat. The *patera* was resting upon large loose stones, and contained the head of an ox ; with this exception the kistvein contained no animal remains, nor any coal-money ; both, however, as well as the pottery, were abundant all around it, and of the latter there were about eighty pieces. The quantity found in the Kimmeridge valley and at Worbarrow affords a strong presumption that there was an industry in the neighbourhood, in connection with the Kimmeridge shale. Near a kistvein at Worbarrow there were several pieces of reddish clay with only impressions of the workman's fingers upon them, which must have been made when the clay was in a plastic state. They had evidently been brought from a distance, as they differed from the clay of the neighbourhood. There were a few apparently worked-flints with the clay, which, if used at all in the turning process, may have served for roughing out, or finishing off the work in

hand. In 1810, in some excavations made near the Roman wall at Fordington, not fewer than a hundred skeletons and several urns of various forms were discovered. Urns without contents were frequently found near the skeleton and generally near the head. The largest urns contained bones partially consumed by fire, and generally without any admixture of earth as if they had been collected after cremation ; some were covered by a patera containing charcoal. Most of the small urns did not contain any bones or ashes and were found near an unburnt skeleton. A coin of Hadrian was found lying on the breast of one of the bodies. On another site in the neighbourhood the remains of more than 50 bodies were found. They had been all deposited entire with the exception of two, which had undergone cremation. Many had been apparently enclosed in coffins, as nails of various lengths were with the bodies. Round the neck of one female was a necklace of small glass and amber beads ; an armilla of Kimmeridge shale, which had been turned off and finished in a manner indicating an advanced stage of art, encircled the wrist. An amulet or large bead of the same material was found with the rest, which was well turned, and ornamented with circular lines. It was nearly spherical, the longer axis being an inch and a quarter, the shorter one inch. Two armillæ and an amulet, or bead of Kimmeridge shale were found in another interment. Both the armillæ and the amulet were polished and ornamented ; there were also two Roman coins with these relics by which it may be inferred that the date of the interment was during the Roman occupation of these islands ; it is reasonable to suppose that the armillæ were manufactured in the lifetime of the person by whom they were worn. Some of the bodies had been cremated and others buried in coffins ; both these practices prevailed among the Romans as well as the Britons ; chiefly so among the latter. That of burning the body and depositing the ashes in urns prevailed both among the Romans and the Britons, more especially among the latter. The establishment of the Roman power in this part of the country induced an intermingling of manners and customs ;

we may, therefore, expect to find the survival of many customs among the Britons which Roman influence could not eradicate. Thus the kistvein is unusual for Roman interments, and the occurrence of necklaces, beads of various substances, and the placing of small earthen cups near the heads of the bodies show the interments to be British: on the other hand the armillæ, beads or amulets, and other objects of Kimmeridge shale are exclusively Roman. In a large pasture between the village of Kimmeridge and the Bay, Lieutenant E. Garard Smith, chief officer of the Coastguard Station, found an oval-shaped kistvein, the sides of which were composed of large sea-worn pebbles plastered over, containing human remains, including the arms, thigh-bones, lower jaw, and the upper portion of a skull, which appeared to have been sawn through. A rough ring of Kimmeridge shale was placed on each side of the skull; there was no coal-money within the kistvein nor near it, but outside there were bones of various animals, among them the horn of a stag and a quantity of limpet shells. In the same field he found quite a magazine of coal-money, of which there were upwards of 500 pieces, square and three-holed type. On another occasion he found a bronze fibula, with several pieces of pottery. The frequency of coal-money scattered throughout the valley of Kimmeridge has been already noticed. It has been found by the sides of a small stream, Rope-lake, near Swalland Farmhouse, between Smedmore and Encombe, and farther to the east at Freshwater Steps, Encombe, and at Chapman's Pool. The late Rev. J. H. Austen and the Rev. Nathaniel Bond examined a field at Povington in 1856, in which they found pottery in abundance and in one instance part of an amulet. Every dig of the spade brought up two or three pieces of coal-money in excellent condition, the edges were so sharply defined that they must have been covered over very shortly after they had been detached from the lathe. The coal-money here was scattered about as indiscriminately as at Tyncham, but there were more pieces of unwrought Kimmeridge shale and broken amulets. These must have been brought from

Kimmeridge, and as there is no Kimmeridge shale nearer, I am led to the conclusion that there was a manufactory both at Povington and at Tyneham. From two holes at Povington, each about a yard in diameter, Mr. Austen procured from six to eight hundred pieces of coal-money, many broken pieces of armlets, and flint-chips—some of which were pointed, and probably served as tools for the lathe. The pieces found in one of the holes differed in size from those in the other, although only a few yards apart. The larger were of the usual type; the smaller appeared to be the centres of links for chains. Minute pieces of shale, probably chippings from the lathe, were in both holes. Associated with coal-money at Povington were a rude saucer of Kimmeridge shale, several pieces lathe-worked, with portions of rings attached to them. There were also four smoking-pipes, small in the bowl and thick in the shank, similar to those figured in Mr. Willis's catalogue of the antiquities in the Museum of the Royal Irish Academy. Our eminent fellow-member, Dr. Wake Smart, says that the late Mr. Charles Hall, of Ansty, had a piece of Kimmeridge shale, about a foot long, rudely carved with a lion's or leopard's face upon it, which he found at Frampton with Roman remains, including a magnificent Roman pavement. Among many other relics found in a Roman cemetery, at Jordan Hill, near Weymouth, was a slab lying near the humerus of a human skeleton, and on it a small cup of black ware with a handle; also another cup of Samian ware, around which were placed five small bowls of black-ware, with a piece of Kimmeridge shale, smooth, and bearing linear and semi-circular tracings. In the late Mr. Durden's collection is an oblong block of Kimmeridge shale with the figure of a lion in relief. This, too, came from Jordan Hill. Some years ago Mr. Durden found the site of a Roman kiln at Bagber, in the parish of Milton Abbas, with coins of Philippus Junior, Alexander Severus, Gordianus, and Antoninus; also a circular piece of Kimmeridge shale, sufficiently perfect to show that it was the part of a potter's wheel; the contrivance for giving it a rotatory motion is well shown on its under surface. I found last year at this kiln the broken portion of a circular-shaped worked

piece of Kimmeridge shale, which I conceive to be part of another wheel. I found also one piece of coal-money, of the three-holed type. An elegant bowl of Kimmeridge shale was found by Mr. Medhurst in 1846 at Jordan Hill, lying near a human skeleton. In the County Museum there is an unfinished circular piece of Kimmeridge shale centred for the lathe, also a part of an undetached ring ; it had been probably damaged in the lathe and thrown aside. Mr. Austen opened a tumulus near St. Alban's Head in the year 1850, in which were fragments of coarse pottery, pieces of Kimmeridge shale, a piece of coal-money, an armlet of shale, and a small sherd of the so-called Samian ware ; also five Roman coins—Trajan, Marcus Aurelius, Gallienus, Victorinus, and Tetricus. In another tumulus at Afflington, near Corfe Castle, Mr. Austen found several pieces of Roman pottery, a portion of a metal clasp, a piece of iron, and several pieces of Kimmeridge shale. In 1857 he examined a large barrow on Knowle Hill, west of Corfe Castle, in the centre of which was a kistvein of from eight to nine feet in diameter and nine and a-half feet in depth ; at the bottom was a skeleton with lumps of chalk carefully packed over it and covered with earth containing pieces of burnt wood about two feet in thickness, and thinly coated over with clay. The body was in a crouching position, with it were two pieces of stag-horn, two fragments of British pottery, and a piece of Kimmeridge shale. General Pitt-Rivers in his important and thorough excavations at Woodcuts found several pieces of coal-money of the three-holed type ; and while trenching the ground at the north-west quarter of the village he fell in with two carved handles of two bowls, spindle-whorls, beads, fragments of bracelets, ornamented rings turned from cores, and a cup 1.10 inch in diameter and 0.53 inch high, all of Kimmeridge shale. There were also several pieces of rough, unworked shale which were probably brought for manipulation. Of the 59 objects of Kimmeridge shale, including coal-money, of these General Pitt-Rivers says 32 were found in the north-west

quarter of the village, eight in the central, nine in the main-ditch, two in the main-rampart, five in the outlying quarters, and three uncertain. The fragment of a tablet from Rotherly, fractured unfortunately across the centre, is one of the most interesting of the relics. It is of Kimmeridge shale, and if complete it would have been $12\frac{3}{4}$ inches long, 14 inches broad, and 0.54 inch thick. It was found in a cutting, assumed to be the foundation of a square hut in the south quarter: as this was the only indication of a square building in Rotherly, it was presumably the dwelling of a superior class of resident. There were with it several other objects, including coins of Hadrian and Trajan. After a critical survey of the possible use of the tablet, and comparing it with four others of the same material from the neighbourhood of Jordan Hill, Weymouth, General Pitt-Rivers suggests the possibility of its having been used as a writing tablet; but the absence of any rim which is usually found in tablets to guard the wax he considered might be an objection. In conclusion General Pitt-Rivers says "for whatever purpose the Kimmeridge shale tablets may have been used, they appear to have been peculiar to this Dorset region." A shallow one-handled saucer, or stand of Kimmeridge shale material, was found at Povington, which appears to be an unfinished lamp-stand, or possibly a lamp. A remarkable and skilfully made cup of Kimmeridge shale was found in a tumulus at Broad Down, near Honiton; its height $3\frac{5}{8}$ inch, and its greatest diameter, which is at the mouth, is three inches. Of cups turned by the lathe Sir John Evans says they had probably been made by the simple instrument known as the pole-lathe, of which he gives the following description:—"On the bed of the lathe, which usually consists of two pieces of square wood, nailed to two standards, fixed in the ground, are two wooden *heads*, both furnished with pointed screws passing through them, to form the centres on which the piece of wood to be turned revolves. This piece of wood is chopped into an approximate cylindrical form and placed between the two centres, and above the lathe is fixed a long elastic pole of wood, to the end of which a cord is attached, connecting it to the

end of a treadle below the lathe. The cord is hitched round the wood, and adjusted to such a length as to keep the treadle well off the ground when the pole is at rest. When the treadle is pressed by the foot it draws down the pole, and the cord in its passage causes the piece of wood to revolve. When the pressure is relieved the elasticity of the pole draws it back in the opposite direction, so that the workman, by treading, causes an alternate rotatory motion of the wood. If a projecting stop were attached to the object in the lathe, so as to prevent it making a complete revolution, a portion which would be occupied by the handle of the cup would be left unturned." In a barrow at Stoborough, near Wareham, called King Barrow, a very large hollow trunk of an oak was found—10ft. long with a cavity of 3ft.—containing several human bones, and near the south-west end of the barrow there was lying a small vessel, somewhat similar to the cup found at Broad Down Barrow, but of different ornamentation and of ruder workmanship. It was described at the time as made of wood, but it was probably of Kimmeridge shale, as has been suggested by Dr. T. Wake Smart. The late Mr. C. O. Bartlett had a rudely chipped conical piece of Kimmeridge shale from the neighbourhood of Wareham in his collection which appeared to have been prepared for a deep cup or vase. In Mr. Durden's collection * are two amulets, five armillæ, two beads of Kimmeridge shale, from the Roman camp at Hod Hill; also three amulets from a field on the eastern slope of the hill. One bead, two armillæ, and three amulets were found at Tarrant Hinton, where Roman relics are profusely scattered about beneath the surface, comprising tesseræ, fragments of urns, bronze fibulae, amphoræ, querns, and roofing tiles. There is an armilla in this collection which was found in a grave at Sturminster Marshall, containing the skull of a young person, also a piece of Romano-British pottery.

From the evidence adduced above there is no proof that coal-money and other objects made of Kimmeridge shale were

* Purchased by the Trustees of the British Museum.

extant before the Roman period. The barrows, which are decidedly British, yield nothing manufactured from the Kimmeridge shale, although unworked pieces often occur for reasons to be accounted for a little further on; there is no doubt that the coal-money is merely the refuse or core from the lathe. Sir John Evans thinks they must have been worked with metal tools; as a mass of them have been found conglomerated together by the presence of iron pyrite. The numerous chippings of flint which are often found with the shale were probably used for roughing it out in preparation for the lathe. In some places the discs are scattered about promiscuously in all directions, as if they were of no value, while in others they appear to have been hoarded up with much care in large or small quantities. They are often associated with interments, leading me to think that their inflammable properties invested them with a fetish character upon the minds of the relatives of the deceased Briton. Flints, too, are frequently met with in interments decidedly British, which being spark-producers, had also a superstitious value in the estimation of the Briton. The abundance of coal-money at the Corfe Castle kiln, as compared with that found in other Romano-British settlements, extending far into Wiltshire, leads to the supposition that there was a manufactory in the neighbourhood in connection with an industry in which Kimmeridge shale was an ingredient, this was probably in the valley of Kimmeridge, which exclusively consists of this material. We have seen how coal-money lies about indiscriminately under the surface and in graves; they are often heaped together in considerable quantities—dépôts perhaps for future use. Their regular and neat forms, so favourable for transport, gave them perhaps an attractiveness to the superstitious Romano-Briton, in preference to the rough unworked slabs of shale which their ancestors made use of in their funeral rites. From the earliest times fire has been an element of superstitious veneration. It was an important factor in the ancient religion of the Accadians, which retained its hold so strongly upon their con-

querors—the Babylonians—that the language of their rituals was retained, and, becoming in time obsolete and unintelligible to these people after the old generation had passed away in order to make it intelligible to the worshippers, the living language was inscribed upon the same liturgical tablet by the side of the forgotten one, analogous to the usage of the Church of Rome. This wise and prudent policy secured, or helped to secure, the loyalty and obedience of the subdued people. There is a statute as late as the reign of Canute forbidding the “barbarous” to adore the sun and moon, fire, fountains, stones, and trees. Fire was adored by the Turanian and Aryan nations. The Magi of Persia, while they worshipped the elements, gave the first place to water and fire. In this respect they resembled the Accadian magicians, who pretended they could by their incantations and religious ceremonies cause fire to descend upon their funeral pyres. In some instances it was regarded as a divinity; Vesta had no image in her own temple, the Vestal fire being considered as the goddess herself. The fire of the family hearth was held to be sacred, and its flame was never to be put out, nor to go out. It was obligatory to keep it pure and bright. Herodotus says the Persians ascended the loftiest mountains and there offered sacrifices to Jupiter, the name they gave to the whole circuit of the firmament. He adds, too, that they offered to the sun, moon, earth, fire, water, and to the winds, as gods whose worship had come down to them from ancient times. Fire was also an object of adoration among the Chaldeans, as shown by their hymnals. It was worshipped in the sacrificial flame, and as it rose from the domestic hearth they regarded it as the most powerful and active of their gods, by the aid of which they had the most direct communication with heaven and could at their own will produce it on the altar of sacrifice. The message of Jehovah to the Jews by the prophet Isaiah, ch. xliv., 14—16, refers to the fire-worship of the apostate Jews:—“He planteth an ash and the rain doth nourish it; then it shall be for a man to burn. He maketh a god and worshippeth it; he burneth part thereof in the fire, with part thereof he eateth flesh; he roasteth roast, and is

satisfied : yea, he warmeth himself, and saith, Aha, I am warm, I have seen the fire : and the residue thereof he maketh a god, even his graven image : he falleth down and worshippeth it, and prayeth unto it."





1



2



3



4



5



6



7



8



9



10

+



11

+



12

$\frac{5}{4}$ nat.size.

H. M. Richardson del.

Cambridge Engraving Co.

Varieties of *Littorina Rudis*, Maton, magnified.

Fleet near Weymouth.

EXPLANATION OF THE PLATE.

Fig. 1. A reversed specimen lent by Mr. Brockton Tomlin.

Figs. 2 and 3. In these specimens the mouth is bent upwards and passes over the spire. In Fig. 2 the spire is in the mouth. Fig. 3 shews another view of a specimen further grown.

Fig. 4. In this specimen the tube of the whorl increases and decreases in diameter alternately, thus having an undulating plane of the surface.

Fig. 5. The last whorl is nearly at right angles to the earlier ones.

Fig. 6. The direction of the axis of the shell is much altered.

Fig. 7. The last whorl is detached from the others.

Fig. 8. The last whorl gapes away from the earlier ones, but returns to the normal just before the mouth.

Figs. 9, 10, and 11. These specimens show the varying height of the spire.

Fig. 12. This shell is from the mouth of the Fleet where the water is salt, and is of much thicker substance. The other specimens come from near Langton Herring, where the water is brackish and weed is present.



On some Monstrosities of *Littorina Rudis*, Mutton.

By E. RUTHVEN SYKES, B.A.



THE subject of monstrosities, although a very fascinating one to students of the *Mollusca*, is one to which very little systematic study has been given. Records innumerable, principally, however, of single specimens, have been made of such discoveries, but very little attention has been paid to the causes. Possibly this neglect may be due to the fact that colonies of monstrosities are by no means common, while single monstrous specimens—often due to breakage or some such cause—are not infrequent. We should notice before coming to our special subject that in all these forms, distorted or otherwise changed as they may be, the nucleus of the shell is in all cases regular. Thus there is no variation from the normal in a univalve until after the embryonic whorls; then the change takes place and the malformation appears, in some cases increasing more and more with the growth, while in others the animal seems to recover itself and goes back to the normal state. These malformations are not inherited strictly speaking, but I think that an ancestor having become monstrous through external influences (except such as breakage, &c.,) may cause a predisposition in the descendants also

to become monstrous sooner than descendants of an ancestor not so affected. Clessin * states that in certain species of *Planorbis* of which he found scalariform specimens there is no transmission of these deformities, but that each is caused by obstacles or external agencies. He states that scalariform specimens move more easily through weed than the ordinary ones. The reversal of the twist of the spire stands on a different footing and must be excepted from the general remarks on monstrosities. In such cases the embryonic whorls are reversed, and such a variation is generally inherited by the majority of the descendants. A case has been noticed by Miss Hele, in which sinistral *Helix Aspersa* had dextral young, thus reverting to the normal form.

The specimens which I am about to discuss belong to the species *Littorina Rudis*, and were found in the Fleet Backwater, near Langton Herring, where there is a small amount of fresh water mingled with the salt. They are picked out from an unsorted mass of broken shell and drift which the waves cast up on the shore. At present I have been unable to find any live specimens of the monstrosities, though normal ones are common alive, and those figured therefore are only dead shells. The figures of these shells amply exhibit their curious forms, but on those represented by figs. 1, 2, 3, 4, and 12 a word or two may be useful. Fig. 12 is a shell of much thicker substance than the others and of normal form, found near the mouth of the Fleet, where the saltwater has practically no fresh intermingled with it, and where the rapid current prevents the growth of any weed. Fig. 4, unlike all the others, has the tube of the whorl uneven. In this specimen the tube increases and decreases in diameter alternately, thus producing an undulating or wavy surface. Figs. 2 and 3 are by far the most interesting ; their appearance until a close examination is made being that of sinistral specimens. In fig. 2 the spire is actually in the mouth of the shell. Their curious appearance is produced as follows :—At first the specimen is regular, then the tube of the shell is gradually bent upwards, passing over or close by the spire,

* *Malacozoologische Blätter*, vol. xx., pp. 68-83.

having the last whorl almost free and unattached to the body of the shell. Figs. 2 and 3 represent very similar specimens from different points of view. Fig. 1 represents a specimen kindly lent by Mr. Brockton Tomlin, which is sinistral from the apex, and which he found in some drift taken from this Langton Herring shore. There are, I believe, only two or three specimens of this variety known. All these specimens (except that represented by fig. 12) belong to the variety *Tenebrosa*, and there are found with them in the drift *Scrobicularia Tenui*, *Hydrobia Ulvae Rissoa Membranacea*, *Acera Bullata*, and *Truncatella Truncatula*, all of which, save the last, are found plentifully alive. No large or full grown examples have been found; the result of a deviation from the normal form seems to have been fatal to the molluscs at a very early period of their existence. A fair quantity of specimens of these forms have been found, but they are generally so broken that a perfect specimen is scarce.

Many other interesting forms of *Littorina* have been noticed from various localities. I have a variety of *Littorina Littorea* (var. *Turrita*) from Belfast Lough, where it is not uncommon, in which the spire is produced, the whorls inflated, and the suture deep. There is said to be no confervoid weed present in this locality, and Mr. Marshall informs me that all the species found with them that he is aware of are normal in form. This species has also been found sinistral when adult. There are in the collection made by the late Mr. MacAndrew, now at Cambridge, several specimens of *Littorina Littorea* keeled and depressed, but of the normal colour. Also there are in the British Museum several keeled and turreted forms of *Littorina Rudis* from Falmouth and Exmouth. All these specimens have the nucleus of the shell regular.

There is a very interesting colony of *Planorbis Corneus*, described and figured by Dr. Baudou,* though it should be remembered that this is a freshwater and not a marine species. His figures are very interesting and represent specimens very similar to some of mine. He has been kind enough to furnish me with some notes of his find,

* *Journal de Conchyliologie*, xxxii., pp. 319-22, and pls. viii.-x.

and from them I take the following:—The shells were found in muddy or shady ditches in which the soil was of a black or peaty nature. The shells were not so solid as usual and more transparent. There were a few weeds present in the water, but no vegetation growing on the shells except “des mousses microscopiques.” Some of the specimens, both regular and distorted, were albinos, and he remarks that the “mousses” were not invariably present on such specimens. None of the other species—*Planorbis Complanatus*, *Limnaea Palustris*, &c.—found with them were distorted or albino. Thus we must notice at once that certain species may be affected, while other species living in the same spot and under the same conditions are not.

The causes which have produced these forms are either internal or external. They are either due to some defect in the animal itself or are attributable to the influence of its surroundings. I will now deal with the internal causes suggested, and first I will take hybridism. These shells are certainly not hybrids since they exhibit only the characters of *Littorina Rudis*. Jeffreys and Thomson certainly did notice the coupling of specimens of *L. Rudis* with others of *L. Obtusata* at Weymouth, and the same has been noticed in Ireland. A dwarfed and stunted race of *L. Obtusata* is to be found in the Fleet, but I have not seen it so far up as Langton Herring; its termination is, I think, a little above Chickerell. There are some notes by Mr. Ellsworth Call,* the result of the dissection of many specimens of the American freshwater species *Melantha Rufa* and *M. Decisa*, and of the examination of the embryos they contained, in which he puts forward the theory that the cause of shouldered and sinistral shells is the crowding together of many specimens while in the embryonic stage. He found that one and a-half per cent. of 1,000 of the embryos in *Melantha Rufa* were sinistral, and two to two and a-half of 1,000 in *Melantha Decisa*; while from collecting the adult shells he found that only one-tenth of one per cent. survived. He attributes sinistral shells to crowding very early, while shouldered ones are accounted for

* American Naturalist, vol. xiv. (1880), p. 207.

by crowding in a later stage. This theory is very interesting, but it cannot be applied to the Fleet shells, for all their early stages are proper and regular ; while the causes which make them monstrous seem only to affect them later in life and after their deposition by the animal. Thus the cause must, I think, be sought in external influences. The shore is a well sheltered one, and therefore the waves have no effect in weathering and dwarfing the shells such as we often see on exposed coasts like the Land's End. The effect of frost may be at once put aside. When the temperature falls below the point at which a mollusc can assimilate its food the development ceases, and a similar effect is produced by too great heat. *Littorina Rudis* ranges as far north as Spitzbergen and Hamilton's Inlet, and therefore should be able to endure severe cold. Severe heat in our climate it is not likely to suffer from. The effect of volume of water may be disregarded. In general the greater the volume of water the greater the length of the shell. This is, of course, subject to much change on account of other causes of variation, such as increased or diminished quantity of food for each inhabitant, and is usually so overpowered by them that its effect is inappreciable.

Increased or diminished saltiness of the water requires far more consideration. This undoubtedly has some effect on the form of the shell, but does not, I think, produce monstrosities. There is an interesting paper by Mr. Bateson,* in which he discusses some forms of *Cardium Edule* from the Aral Sea and from Egypt. He draws the conclusion that increased saltiness due to evaporation produces thinner shells and a higher colour, while increased freshness due to the influx of freshwater does not produce a thinner shell. In the *Cardium* increased salt increases the breadth in proportion to the length. He considers the change to be due to "general unfavourableness of conditions," and says further "all that can be stated with certainty is that shells exposed to increasingly saltwater do change in a particular way, and they do so with great regularity and uniformity. In the same way it has been shewn that the

* Phil. Trans. of Roy. Soc. of Lon., vol. lxxx. (1889), B., pp. 297-330.

influence of freshwater does not lead to the production of a peculiar type of shell." I can hardly follow him to this latter length, however, as an admixture of freshwater does materially alter the thickness of most marine shells and after a certain point must produce a general unfavourableness of the conditions, and must tend to produce a form varying to some extent from the normal. Varigny* has recorded that mollusca inhabiting the shore—as *L. Rudis* does—are better able to endure the influx of freshwater than those from the deep sea. The only thorough experiments made with a view to testing the effect of transferring marine forms to freshwater were made long ago by Beudant. No results have yet been obtained by the breeding of marine forms in saltwater mixed with fresh, owing probably to the difficulty of keeping the parents alive for a sufficient time. Beudant experimented with (amongst others) six species of marine *gasteropoda* by adding by degrees freshwater to the salt, and I give the results abstracted from his table :—

Name of Species.	Number at first. Jan. 1.	Number, June 1.		Number, Sept. 1.		Percentage (then alive).	
		In salt.	In half fresh.	In salt.	In fresh.	In salt.	In fresh.
<i>Patella Vulgata</i> ..	30	23	21	16	15	53	50
<i>Littorina Neritoides</i> ..	50	39	37	22	25	44	50
<i>Purpura Lapillus</i> ..	30	28	26	19	17	63	56
<i>Fissurella Uncibosa</i> ..	30	21	18	14	—	46	—
<i>Haliotis Tuberculata</i> ..	15	13	11	5	—	33	—
<i>Buccinum Undatum</i> ..	20	17	13	11	—	55	—

A curious fact appears from this table with regard to *Littorina Neritoides*, a British species of the same genus as the specimens we are now considering. Actually more specimens of this species which had been gradually accustomed to freshwater were alive at the end of eight months than of those which had been kept in their native saltwater. Thus it cannot be said that an admixture of freshwater is injurious to the species during the first generation and certainly not to the extent of making it become distorted. The early death of these forms is also in my opinion against the theory of a mingling of freshwater being the cause, as they should if

* C.B. Phys., vol. i., pp. 566-8.

due to this become the fittest—unless by this deformity they become in contradiction to their surroundings—and should persist rather than the normal form. Most colonies of monstrosities have, as far as I know, been found in freshwater rather than in salt, and the operating cause should be sought in some cause common to both salt and freshwater.

The only cause common to both is, I think, weed. I refer to the effect produced by weed attaching itself to the shell in tufts or covering it with a tangled mass. A microscopic growth was, it should be remembered, noticed on some of the *Planorbis* found by Dr. Baudon. There is undoubtedly a large quantity of it present in the Fleet; many of the living specimens on the shore having tufts of it attached. Mr. J. T. Marshall, who has seen these *Littorinas*, considers that the monstrosities are due to this cause. He says: "I know of only one similar instance where *Rissoa Parva*, otherwise fine large examples, have the last whorl constricted and partially disconnected from the axis of the shell. It likes among spore-like seaweed, and the young filaments of the latter attach themselves to the shell and in some way incommode its inhabitant." He also suggests as an explanation of the fact that one species is affected and not the rest, that "while the sluggishness of one species might tolerate its presence"—*i.e.*, that of weed—"the activity and livelier habits of another would keep them more or less free from its bad effects."

Why the *Littorina* does not—being graminivorous—eat off the weed which inconveniences it I cannot say, unless this weed is in some way distasteful to it. Possibly the animal when one of these tufts presents itself in its way while it is forming shell either turns off and alters the direction of the whorl, so as to avoid this tuft, or else throws out a stratum of shell over it. If the former, a specimen would be produced in which the relative height of the spire or the direction of the whorl would vary; if the latter, then one with a tendency to become scalariform. If the cause continued a monstrosity would result, while if no more weed hindered the animal might, as is the case with some specimens, return to the normal

form. The only colony I am aware of in which the presence of weed has not been noticed is that of the *Littorina Littorea* at Belfast. For the purposes of my argument it is hardly necessary that it should have been present since these shells are hardly monstrous. I might perhaps mention while suggesting that the tufts of weed cause the variation in form that Roffiaen* unsuccessfully endeavoured to produce scalariform varieties by applying gypsum to the aperture of living specimens of *Helix* during their growth. The insertion of a piece of stick or some such cause has frequently, however, been the cause of a monstrosity. The fact that no adult forms have been found, I incline to think, supports the theory that they are due to weed ; as if due to some condition, such as addition of freshwater, they should be as healthy and as likely to come to maturity as the normal ones. Weed would also be more likely to affect the weakly specimens, as the stronger ones would push it aside more readily. Also, might not the curious form that they are compelled to take in some way unfit them for the surrounding conditions and thus cause their extinction ?

To sum up shortly then. I think that the cause should not be sought in the animal since the earlier whorls are always regular. Hybridism is not possible since they exhibit only the characters of *L. Rudis*. Variation in temperature does not produce monstrosities ; neither does absence of salt, unless, possibly, a total lack. We are then left with weed, which seems to be found with all monstrosities in colonies, and which I incline to believe the probable, as it certainly is the possible, cause.

* Ann. Mal. Belg., vol. iii., pp. lxxxii.—lxxxiv.





On the British Species of False-Scorpions.

Pseudo-Scorpiones—Cambr. & Thorell. *Chernetes*—Sim.

CHERETIDEA (Cambr.)

By Rev. O. PICKARD-CAMBRIDGE, M.A., F.R.S., &c.

INTRODUCTION.

WHEN speaking to you two years ago on the British species of *Phalangidea* or *Harvest Men* I could feel pretty sure that some of my hearers would at once call to mind the group of the Articulata intended, and probably would be conversant with some of the commoner species. This, however, is not the case in respect to the group upon which I am now going to say a few introductory words. It is probable that few, if any, of you may know what a *false-scorpion* is, though you may have a very good notion of a *true* scorpion. With the latter you rightly associate a *tail*, or more properly a *post-caudal-elongation*, ending with a *formidable and venomous point* or *sting*. Well, in this respect the *false-scorpion* totally differs, as it has no tail at all, and having no sting is quite harmless. It resembles in some other external points the *true*

scorpion, but differs in that very material one; and hence it has obtained the popular name of *false-scorpion*.

The mode of life of this group is a very obscure one, being passed under stones and dead bark of trees, among moss, dead leaves, or other rubbish, and in old buildings, one species often inhabiting old libraries. Thus they are seldom seen unless specially searched for. Their colouring is plain, chiefly yellow-brown, brown, and red-brown, and generally without any special pattern or markings. Entomologists, particularly those who work at the *Coleoptera* (or beetles), must often see them while searching for the *Geodephaga* (or ground-loving beetles); but, I am sorry to say, they do not as a rule often note or collect them. One or two of the *false-scorpions* (and possibly others) have a curious habit, which may, perhaps, have brought them to the notice of even comparatively uninterested observers. I allude to their seizing on the leg of a fly with their forcipated palpi, and being thus carried about by the fly from place to place. This is a *quasi-parasitic* habit; but, excepting as a means of transport and dispersion, it does not appear to be of any special advantage to the passenger, nor, excepting as an incubus, does it seem to injure the fly. From what has just been said it will be gathered that the *false-scorpions* are all of small size. Those I have exhibited show the largest and smallest as yet found in Britain. Some of the exotic species are larger, but none are of large size. Like the "Harvest Men," it is considered now that the *false-scorpions* form a separate *order* of the *Arachnida*. They agree with other Arachnids in possessing eight *legs* and two *palpi*, as well as in the union of the *caput* and *thorax*, forming what is termed the "Cephalothorax." They agree also in having the *whole-body* divided into two main portions, the cephalothorax and abdomen, with the eyes (when present) on the former; but they differ from all the other groups, either in the number and position of the eyes, or in the form of the palpi, the segmentation of the abdomen, or in the nature and position of the breathing organs. These and other

special characters unite them as one of the most obvious and well marked groups of their class. Externally (as before observed) they bear a very strong resemblance to the *true* scorpions, and at first sight they might well be considered minute examples of that group, simply destitute of a tail ; but they differ notably from the *true* scorpions in respect to their respiratory system and other parts of their anatomy. Perhaps their closest natural affinities are to some groups of the extensive order *Acaridea* (or mite-tribes) ; and in regard to some of their characters they approach the order *Solpugidea*. These last, however, are exclusively exotic, and comprise, comparatively speaking, only a few species of one of the most homogeneous and distinct of the various Arachnidous orders.

Having thus shortly mentioned their more general characters and position it will be necessary here to give a rather more detailed description of a *false-scorpion*. (See plate A, figs 1 to 6.) I shall use as few technical terms as possible, though, of course, to some extent it is not always possible to avoid technical terms, inasmuch as there are no others available for describing many portions of structure.

CLASS : ARACHNIDA.

ORDER CHERNETIDEA.

In treating of this group some years ago—(1875, Encylop. Brit. Ed. IX., vol. ii., p. 282)—the strong external resemblance of its species to the *true* scorpions, led me to include it with them as two *sub-orders* of the order *Scorpionidea*. Subsequent study has led me to conclude, with Mons. Eugène Simon, that in spite of their superficial resemblance to the *true* scorpions the essential differences between these two groups necessitate their separation into two distinct *Orders*.

The *Cephalothorax* and *Abdomen* of the *Chernetidea* form together an elongate-oval or oblong figure ; these two portions being sessile or fitting up close to each other without any distinct connecting-pedicle. The *Cephalothorax* frequently shews the originally separate *caput* and *thoracic segments* by more-or-less well-marked grooves or indentations. The surface (or *epidermis*) of the

cephalothorax is coriaceous; the palpi are of a harder and more chitinous nature; while the legs and outside of the abdomen are of a more flexible kind. The surface of the *cephalothorax* is at times glossy and smooth, at other times granulose or shagreened. The hairs, with which various portions of their structure are furnished, are either simple and fine, or stout and clavate.

The *Eyes* when present are *two* or *four* in number, generally of a flattened form, pale white or whitish, and placed symmetrically on the sides of the caput, near its fore-extremity. The presence or absence of eyes forms an important character in the separation of *genera* and is also of great use in grouping them.

The *Legs* are short and vary in the number of their joints—from 5 to 7, or even 8. i., The basal joint or *coxa*; ii., the *exinguinal* or *trochanter*; iii., the *femur*; iv., the *tibia*; v., the *tarsus*. Between the extinguinal joints and the femur there is often another small joint more or less visible (or rather the femur is sub-divided). This joint is called by M. Simon the *trochantin*, and is used by him as a distinguishing family character. Also in some examples of *Obisium muscorum* there is a distinct joint between the femur and tibia; unless indeed the tibia is shortened to a mere patella or cubital joint, and the tibia then becomes a metatarsus, the tarsi being also sub-divided. The tarsus is also frequently sub-divided into the metatarsus and tarsus proper. The tarsi end with two curved finger-like claws, beneath which is a kind of sucker, probably the modified form of an originally third or inferior claw (found so commonly in numbers of other *Arachnids*). This sucker is evidently intended to facilitate adhesion to smooth objects in locomotion. The basal joints (or *coxae*) fit up almost close together beneath the cephalothorax without any sternum. A very small sternum-like portion, however, may be found in the genus *Garypus* (Sim.), a genus not yet found in Britain.

The *Palpi* (including the basal joint which corresponds to the maxilla in the *Araneidea* or spiders) are six-jointed: i., the maxilla; ii., the axillary joint; iii., the humeral; iv., the cubital; v., the radial; vi., the digital. The radial and digital joints are very much

modified when compared to the corresponding parts of the palpi in the Araneidea, and form together a terminal portion like a pair of forceps, pincers, or nippers similar to the didactyle claw of a lobster or crab. The base of the pincers is more or less rounded or bulbous, and has its inner extremity produced into a long finger-like fixed claw, against which is opposed another very similar one articulated to the bulb. The bulbous portion represents the *radial*, and the articulated claw the *digital* joint. The use of this pair of nippers is to seize and hold their prey ; though they do not appear to possess much power of compression or pinching with them. It is by their means that, as before observed, some of these little creatures obtain the assistance of flies, for the purpose of locomotion by laying hold of the fly's leg. The relation, length, and form of the different joints of the palpi are of great importance in the differentiation of the species.

The *falces* are often large, short, two-jointed, and project immediately beneath the fore margin of the caput. The basal joint of each falx is the largest, and the next (articulated to it) is of a fang or claw-shape opposed to the produced claw-like inner or superior extremity of the basal joint, and with it forming a pair of forceps. The falces possess several curious and characteristic appendages called the *galea*, the *flagellum*, and the *serrula*, but their function is not yet certainly known, and they are not easily observed, nor do they appear to be always present. M. Simon has made use of the two latter in his sub-division of this group into families. The *galea* is a transparent cylindrical apophysis directed forwards at the extremity of the moveable fang of the falces ; the *serrula* is also transparent and attached to the base on the inner side of the same fang ; and the *flagellum* is a small transparent process on the inner side of the basal portion of the falx.

The *Abdomen* is, in general, formed of 11 segments above and 9 underneath, covered by transverse coriaceous plates, united by lateral membranes. These plates are often divided longitudinally.

The orifices of the breathing organs are situated beneath the anterior portion of the abdomen, at the extremities of the 2nd and

3rd segments on either side. They are four in number and not always easily discerned. Beneath the first abdominal segment are placed the two orifices of the genital organs; the parts of which are duplex in both sexes. There is also in the middle of the first segment of the abdomen, on the under side, a spinning apparatus. This was first described some years ago by Prof. Menge. The full functions of this apparatus have not been entirely discovered, but its only use as yet known is to envelope the eggs in a kind of cocoon.

The internal anatomy of this group, such as the digestive, circulatory, and respiratory systems have all been investigated and described by Menge, but for our present purpose no notice need be taken of this part of the subject further than to say that the respiration is by means of tracheæ.

The sexes in this order offer no certain outward characters for their separation, excepting the larger and more tumid form of the female when distended with ova.

The *Chernetidea* are universally distributed and are found under stones, old logs of wood, dead bark of trees, among dead sticks and rubbish, moss and decayed leaves; also in old rooms and out-buildings, and more or less at all seasons of the year. One species, the smallest known, *Chiridium museorum*, is found among old books, MSS. in libraries, and in herbaria, where probably it feeds on poduridæ and other insects found in such places, and is known as the book-scorpion. Little is really known of their habits and mode of life, owing chiefly, no doubt, to the obscurity in which they dwell. Their food appears to consist of minute insects and other arachnids in their immature stages. Their power of spinning, so far as known, appears only to be exerted in the formation of a cocoon for their eggs; these are carried about by the female and hatch out within the cocoon, where (according to a distinguished Russian naturalist, M. Metschnikoff) they undergo a series of metamorphoses, and become fully formed on quitting the parent.

The species of this order are comparatively few everywhere, and not very numerous in individuals; though some few species will

be found (probably in most districts) fairly abundant. Some are pretty active in their movements, running backwards and sideways as well as forwards; and with their outstretched, formidable-looking, but very innocuous, forcipated palpi, present a highly threatening appearance. Others seem only to run backwards and sideways. For the most part, however, they are rather dull and sluggish.

The known British species are 20 in number (belonging to six genera), and of these I have met with 14 species in Dorsetshire. The known European species are about 46, comprised in nine genera (Sim. Ar. Fr. tom. vii., p. 10). I feel no doubt but that the number at present recorded as British might be soon considerably added to, if entomologists would pay a little attention to this group, especially along our sea-coasts.

With regard to the collecting and preserving of the *Chernetidea*, there need not be much said. They do not offer any special attraction to collectors, who merely want something pretty to look at, like butterflies and moths; but they are certainly singular looking creatures and easily captured, and may be preserved in a dry state and set out without difficulty on card like those I have exhibited, or (which is better for the purpose of the easier determination of the species, and scientific examination in general) they may be bottled in spirit of wine and placed in glass test tubes as we preserve spiders.

I will only now detain you with a few general remarks on the classification of the *Chernetidea*, and on the works that have been written upon them. The remainder of my paper will then be more technical, and, of course, chiefly of interest to the specialist.

With regard to the sub-division of this order it is not surprising that, in a group so homogeneous as the present, only one *family* can be clearly characterized in it, and in fact the characters of this *family* are simply the characters of the *order*. Some previous writers have given chief weight in characterizing their sub-divisions, to the presence, absence, or number when present, of the eyes;

while Mons. Simon, who is undoubtedly at the head of all living Arachnologists, attaches less value to this character and subdivides the one family (*Cheliferidæ*) into three sub-families, based chiefly on the presence or absence of the appendages of the falces mentioned just now, and of the small quasi-joint (trochantin) found at times between the trochanter and femur of some or all of the legs. In this arrangement species are brought together by M. Simon in his several sub-families (and sometimes also in his genera), both with and without eyes, as well as differing in the number of eyes when present. It appears to me that, to say the least, by this method we lose the very tangible and obvious character of the eyes in thus really making them of only specific value, while we gain but little in any other respect from this arrangement. I propose, therefore, to make the eyes the basis of the sub-division I shall propose of the families, sub-dividing it into three divisions or groups—1st, those possessing *four* eyes; 2nd, those with *two*; and 3rdly, those with *none*. It may be noted that when arranged thus in a linear form the species fall almost exactly into the same relative positions as in M. Simon's arrangement.

Various authors from Linnæus onwards have written upon the *Cheliferidæ*; but the more recent and important are Dr. Ludwig Koch, Herr. Menge, Mons. Metschnikoff, and the most recent—Mons. Simon. This last author gives a *resumé* in his vol. vii. of the *Arachnides de France*, A.D. 1879, of all the authors who have thus contributed to our knowledge of this group. I may mention, however, that in England the late Dr. Leach as long ago as 1817 (*Zool. Miscell.*, iii., p. 47) recorded and described seven or eight species. His types are in the British Museum; their condition is not altogether satisfactory, but I have, I believe, succeeded in determining most of them with fair certainty. His figures are rough, some of them very inaccurate, and his descriptions very brief and meagre. Another English author, Mr. H. Tulk (*Ann. Mag. N.H.*, 1844, vol. xiii., p. 55), first describes one of the curious appendages of the falces mentioned above—the *serrula* (Sim).

These are the only works, so far as I know, written upon the British species, and I hope the present monograph, attempting to bring these species together in a tangible form, may induce others to study them.

SYNOPSIS OF THE BRITISH FORMS.

CLASS : ARACHNIDA.

ORDER CHERNETIDEA.

FAMILY : CHELIFERIDÆ.

GROUP I.—*Four Eyes.*

Chthonius orthodactylus, Leach.

- „ *Rayi*, L. Koch.
- „ *tetrachelatus Preyssler*
- „ *tenuis*, L. Koch.

Obisium muscorum, Leach.

- „ *sylvaticum*, C., L. Koch.
- „ *maritimum*, Leach.

GROUP II.—*Two Eyes.*

Roncus Cambridgii, L. Koch.

- „ *lubricus*, L. Koch.
- Chelifer Hermannii*, Leach.
- „ *cancroides*, Linn.
- „ *meridianus*, L. Koch.
- „ *subruber*, Sim.
- „ *Latreillii*, Leach.

GROUP III.—*No Eyes.*

Chernes nodosus, Schr.

- „ *insuetus*, sp. n.
- „ *cimicoides*, Fabr.
- „ *dubius*, sp. n.
- „ *phaleratus*, Sim.

Chiridium museorum, Leach.

DESCRIPTIONS OF THE GENERA AND SPECIES.

Group I. *Eyes four.*

Two British Genera only are comprised in this group—*Chthonius* C. Koch and *Obisium* Leach.

These may be thus distinguished :—

- i. Claws of pincers, straight, *Chthonius*.
- ii. Claws of pincers, curved, *Obisium*.

GEN : CHTHONIUS (C. Koch.)

The *Cephalothorax* is equal in length and breadth ; it is either squarely or a little roundly truncated in front, and the eyes are placed two on each side of the anterior part of the caput, more or less separated from each other in a line parallel with the plane of the Cephalothorax. The abdominal segments are eleven ; those on the upper side entire—(*i.e.*, not divided by a longitudinal central divisional line). *Falces*, strong, nearly as long as the Cephalothorax. *Palpi*, rather long ; the radial and digital joints (forming the fore-cept or pincers) are very long, and the fingers straight. The femora of the third and fourth pairs of *legs* are very strong and compressed, and the tarsi are divided. The first and second pairs devoid of a “trochantin ;” surface of the integuments, smooth and shiny.

Four species only are as yet known in Britain—*C. orthodactylus* Leach, *C. Rayi* L Koch, *C. tetrachelatus* Preyss, and *C. tenuis* L Koch.

These may be shortly distinguished as follows :—

- 1. Cephalothorax of equal width throughout, *C. tetrachelatus*.
- 2. Cephalothorax wider in front than behind.
 - (a) Bulbous portion of pincers unicolorous, or nearly so, with the rest of the palpus.
 - i. Size smaller ; eyes separated by a less interval ; Cephalothorax less wide in front.—*C. orthodactylus*.
 - ii. Size larger ; eyes separated by a greater interval ; Cephalothorax more widened in front.—*C. Rayi*.
 - (b) Bulbous portion of pincers black-brown.—*C. tenuis*.

CHTHONIUS ORTHODACTYLUS. Pl. A, fig. 7.

Syn: *Obisium orthodactylum* Leach. Zool. Misc. iii., p. 51, pl. 141, f. 2, 1817.

„ *Chthonius orthodactylus* Leach—Sim. Araneides de France, tom. 7, p. 73, 1879.

Length scarcely more than $\frac{2}{3}$ rds of a line.

The *Cephalothorax falces* and *abdominal segments* are of a dull yellowish-brown colour, the former tinged with olive. The *legs* are paler and the *palpi* tinged with reddish.

The *Cephalothorax* is perceptibly, but not greatly, wider in front than behind.

The *eyes* are of tolerable size, the posterior eye rather the largest, and are divided by an interval equal to scarcely more than the diameter of the posterior one. The anterior eye is no more than half its diameter from the fore margin of the caput.

The *Cephalothorax* is smooth and glossy, and with the *abdomen* is clothed thinly but pretty regularly with prominent slender spine-like tapering, sharp-pointed bristles; the *legs* and *palpi* are furnished with finer, but some longer, hairs. The bulbous portion of the pincers is very moderately tumid, the claws straight and double or more the length of the bulb. When looked at in profile the inner outline of the pincers is a very little curved, scarcely amounting to even the most obtuse angle between the bulb and the fixed claw.

The *falces* are strong, and equal in length to the *Cephalothorax*; they are furnished with a few spine-like bristles above.

I have found this species at various seasons of the year, though rarely, among dead leaves and moss in woods at Bloxworth, the specimens being identical with the type in the Leach Collection, British Museum.

CHTHONIUS RAYI. Pl. A, fig. 10.

Syn: *Chthonius Rayi* L. Koch. Darst. Eur. Chernet, p. 48, 1873, and E. Simon, Araneides de France, tom. 7, p. 74, 1879.

Length from 1 line to $1\frac{1}{2}$ rd.

This species is nearly allied to *C. orthodactylus*. It is, however, larger, and of a darker brighter colour, the falces and palpi strongly

tinged with red-brown. It may be distinguished readily by the greater interval between the eyes. These are rather smaller, and are separated by nearly, if not quite, two diameters interval, the anterior eye being a diameter's distance from the fore-margin of the caput. The Cephalothorax also is considerably wider in front than behind, and the sides looked at from above are rather incurved towards the hinder part. The falces are also more bulbous-shaped at the hinder portion, and there is also a small obtusely pointed prominence near the extremity of the moveable fang. The palpi are very similar in both species, but in *C. Rayi* the bulbous portion is rather more bulbiform, and longer in proportion to the length of the claws.

This is a widely dispersed and rather common species. I have met with it under stones, logs, old bricks and débris, also among moss and dead leaves; and, in addition to other localities in this neighbourhood, at Sherborne, Glanvilles Wootton, and at Portland. I have also received it from Devonshire (*J. C. Bignell*), Cornwall, and various other parts of England. It appears to be one of the most abundant species on the Continent.

CHTHONIUS TETRACHELATUS. Pl. A, fig. 15.

Syn: *Scorpio tetrachelatus* Preyss. Verz. Böhmischer Insekten,
No. lix., pl. 2, 1790.

,, *Clithonius trombidoides* C. Koch, 1843. Archn. x., p. 76,
fig. 806, 807.

„ „ „ L. Koch. Darst. Eur. Chernet,
p. 49. 1873.

“ “ “ E. Simon, Aran. de France, tom. 7,
p. 70, pl. 19, fig. 18.

Length $\frac{3}{4}$ ths of a line.

This small but very distinct species is of a uniform pale yellowish-brown colour; the falces and pincers (of the palpi), in some examples, rather darker and brighter than the rest, being tinged with reddish. It may be at once distinguished from either of the foregoing species by the cephalothorax being of equal width before

and behind ; being in fact almost exactly square. The anterior eye on each side is rather the largest, and is close to or not more than half a diameter's distance from the fore-margin of the caput ; the interval between the eyes is no more than, if quite as much as a diameter of the anterior eye. The claws of the pincers are straight and a little longer than the bulbous portion. This part is rather narrow, and is constricted or pinched in just behind the base of the fixed claw, furnishing a strong and readily seen distinguishing specific character.

I have met with this species, though rarely, among moss and dead leaves in woods at Bloxworth and in the neighbourhood, and also under pieces of rock and stones at Portland ; I have received it also from Hoddesdon in Hertfordshire, where it was found by Mr. F. M. Campbell, of Rose Hill, in 1887.

CHTHONIUS TENUIS. Pl. A, fig. 17.

Syn : *Chthonius tenuis* L. Koch. Darst. Eur. Chernet, p. 51, 1873, E. Simon Aran. de France, tom. 7, p. 72.

„ „ Cambr. : "The Naturalist," 1884, No. 113, p. 103.

Length from $\frac{3}{4}$ ths of a line to $1\frac{1}{4}$ lines.

The colour of this species is yellowish-brown, the bulbous portion of the pincers being black-brown, and furnishing a readily seen character for distinguishing this from either of the other known British species. The *cephalothorax* is distinctly but not much wider in front than behind, and the sides are very nearly straight. The eyes are rather large ; the anterior eye on each side is scarcely half a diameter's distance from the fore-margin of the caput, and the interval between the anterior and posterior eyes is equal to or a little greater than a diameter. The claws of the pincers are double the length of the bulb and very slightly curved.

This easily distinguished species has been met with though very rarely among moss and dead leaves in woods at Bloxworth, and in the adjoining district, at various seasons of the year.

GEN: OBISIUM (Leach).

Cephalothorax, as broad as long, sometimes longer than broad, and as wide before as behind or slightly narrower in front. Eyes rather large or moderate size; the anterior eye on each side is near to but separated from the fore-margin of the caput, and the interval between the two eyes on each side is distinct, but not equal to a diameter. Tarsi of the two first pairs of legs sub-divided. Trochantin indistinct in the third and fourth pairs. Abdominal plates as in *Chthonius*. *Falces* strong, but not as long as the cephalothorax. Claws of the pincers curved, as long or longer than the bulb. The Cephalothorax, abdomen, &c., are furnished with simple hairs; the integument very smooth and shining.

Three species only are as yet certainly recorded in Britain; *O. muscorum* (Leach), *O. sylvaticum*, and *O. maritimum* (Leach). These may be distinguished as follows:—

- i. Claws of pincers long, not so strong; more strongly curved, and considerably longer than the bulb.

O. muscorum (Leach).

- ii. Claws of pincers short, strong, slightly curved, and scarcely equal, or no more than equal to the bulb in length.
 - a. Bulb very robust; humeral joint of pulpus shorter in proportion. *O. sylvaticum*.
 - b. Bulb less robust, of a more oval form; humeral joint longer in proportion to the cubital.

O. maritimum.

OBISIUM MUSCORUM. Pl. A, fig. 1, and B, fig. 6.

Syn: *Obisium muscorum* (Leach). Zol. Misc. iii., p. 51., pl. 144, fig. 3, 187.

„ *Obisium simile* (L. Koch). Darst. Eur. Chernet, p. 58, 1873, and E. Simon, Arachn. de France, tom. 7, p. 58, 1879.

„ *O. muscorum* (Leach). Dale, Hist., Glanvilles Wootton, p. 325.

Length $1\frac{1}{2}$ rd to $1\frac{1}{2}$ lines.

Cephalothorax very glossy, bright, dark yellowish-brown, often slightly tinged with reddish; *falces* and *palpi* with a stronger red tinge. *Abdomen* dark yellow-brown; *legs* pale brownish-yellow.

Caput rather roundly truncated in front; cephalothorax a little but distinctly longer than broad, sides parallel; *eyes* on slight tubercles and tolerably large, the anterior eye on each side is separated from the fore margin of the caput by at least half a diameter, sometimes to nearly a diameter's interval, and a similarly varying interval separates the anterior and posterior eyes from each other. The anterior eye is round, the posterior slightly larger, and of rather an irregular form. The *palpi* are long, the pincers long and strong; the claws are considerably (sometimes at least one half) longer than the bulb, and curved; they also form a distinct though obtuse angle with the bulb; the humeral joint is distinctly, though not strongly, granulose, both before and behind. The *falces* are less in length than the cephalothorax.

This is an abundant species at Bloxworth and its neighbourhood, among moss and dead leaves in woods, at all seasons of the year, and I have met with it in many other parts of Dorsetshire. It is also widely distributed in Great Britain. It has been sent to me by, among others, Mr. J. B. Masefield, from Staffordshire; by the Rev. F. O. P. Cambridge, from Cumberland; by Mr. J. C. Bignell, from Devonshire; by Mr. Reid, from Epping Forest, where I also found it myself; by Mr. E. A. Butler, from Hastings; and by Mr. W. F. Blandford, from Dartmoor. Mr. J. H. Carpenter has also sent it to me from Ireland.

In respect to the number of joints in the two first pairs of legs, M. Simon states, p. 7, that in no case has he found a joint between the femur and tibia in false scorpions; but in some examples of *O. muscorum* I have undoubtedly found (a), the coxa; (b), the trochanter or exinguinal joint; (c), the femur (undivided); (d), a short joint; (e), a longer one; (f, g), tarsus, distinctly sub-divided into two joints (vide plate 1, fig. 3). (d) Appears distinctly to serve as a genual joint, while (e) is the real tibia. A type of *O. muscorum* (Sim.) has also similar joints to those above described.

Mons. Simon describes a species under the name *Obisium muscorum* (Leach), in his *Araneides de France*, tom. 7, p. 54, and has kindly sent me types of it. After a careful examination of the types of Leach's species, in the British Museum, and comparison of them with those received from M. Simon, as also with both British and French types of *Obisium simile* (L. Koch, Sim.), it appears to me pretty certain that Leach's types belong to the latter (*O. simile*, Sim.); although my examination has not been as satisfactory as could be desired owing to Leach's specimens being in a dry and more or less shrivelled state. Leach's name, therefore—*O. muscorum*—takes precedence of *O. simile*; and *O. muscorum*, Simon, must have its name changed. Whether we have this last species in Britain or not is very doubtful. M. Simon has, indeed, so named some very young British examples I sent to him for identification; but after careful comparison I believe them to be only immature specimens of *O. muscorum*, Leach. The two species are very closely allied, and I hesitate to record the latter as British, until the occurrence of adult examples proves its belonging to our fauna.

OBISIUM SYLVATICUM. Pl. B, fig. 7.

Syn: *Obisium sylvaticum* (C. L. Koch). Die. Arachn. x., p. 61, tab. 343, fig. 794.

Length $1\frac{1}{2}$ lines.

An example of what I believe to be this species was kindly sent to me by Mr. Beulah, of Raventhorpe, Brigg, Lincolnshire. It was found near Chingford, in Epping Forest, several years ago, and had been somewhat unskillfully prepared and mounted as an object for the microscope; hence its examination has not been as easy as might have been wished, especially in regard to its colours. It is, however, very distinct from either of our other known British species. It may be at once distinguished from *O. muscorum* (Leach) by the less curved, shorter palpi, and the far more robust bulb of the pincers, whose fixed claw is also no more than equal in length to the bulb. The cubital joint is rather

shorter than the humeral, and its stem is straight, distinct, and the bulb on this portion of its inner side springs rather abruptly from it, thus differing also from *O. muscorum* (Sim.) The humeral joint is devoid of granulations. The hairs, such as still remained uninjured, are fine and simple. In regard to the joints of the first two pairs of legs, this species resembles *O. muscorum* (Leach); in other general respects also there is much similarity. In the prepared specimen the colour appeared to be dull yellow-brown, with paler legs.

OBISIUM MARITIMUM. Pl. B, fig. 8.

Syn: *Obisium maritimum*, Leach. Zool. Misc. iii., p. 52,
pl. 141, f. 1, 1817.

Length slightly over 1 line.

Cephalothorax and *abdomen* dark brown tinged with olive, and very glossy; *palpi* and *falces* red-brown; *legs* pale yellow-brownish tinged with olive. *Cephalothorax* slightly longer than broad, sides parallel, truncated in front in an oblique line on either side from the centre, where there is a slight but distinct shallow depression.

Eyes rather large, very nearly of equal size; those of each pair are separated from the fore-margin and from each other by a diameter's interval. The hairs with which this species is furnished are long, fine, and simple. The *palpi* are long and strong; the bulb of the pincers is of a cylindrical-oval form; the claws are strong and no more than (if even quite as much as) equal to the bulb in length, and very slightly curved.

I have received this very distinct species (which does not appear to be known on the Continent of Europe) from the Devonshire Coast, where it was found and kindly sent to me by Mr. G. C. Bignell, of Stonehouse, Plymouth. Its habitat was, Mr. Bignell informs me, under stones below high water mark. I have also received it from a similar situation in Jersey from Mr. J. Sinel.

M. Simon conjectures (Arachn. de France, tom. 7, p. 67) that the *Obisium maritimum* of Leach is probably identical with either *O. (Roncus) lubricus* L. K. or *R. Cambridgii* L. K. But Leach

distinctly includes it in his 4-eyed group, and the species described above agrees well with Leach's description and figure as far as they go; and, especially, the very peculiar submarine habitat of the two, are in accordance with each other. Leach says: "Habitat in Angliâ occidentali inter rupes ad littora maris." Moreover, the examples received from Jersey and Devonshire are identical with Leach's types in the British Museum.

The observations made (ante p. 213) in respect to the joints of the first two pairs of legs in *O. muscorum* also apply to the examples I have examined of the present species.

Group II. Eyes two.

This group comprises only two genera as yet known in Britain—*Roncus* L. Koch and *Chelifer* Geöffr. ad partem.

i. Cephalothorax entire—*Roncus*.

ii. Cephalothorax divided transversely by grooves into three portions—*Chelifer*.

GEN: RONCUS, L. Koch (*Obisium* Sim. ad partem).

This genus is nearly allied to *Obisium* and resembles it closely in many respects, but may be easily distinguished by having only two eyes; these are small and situated one on each side near the fore corners of the caput. The *cephalothorax* is as long or only very slightly longer, than broad, and its sides are parallel as far as the eyes, or else slightly curved. The abdominal segments are eleven. Trochantin in second and third pairs of legs only. Two species only have been found in England—*Roncus Cambridgii*, L. Koch, and *R. lubricus*, L. K., which may be thus distinguished—

i. Humeral and cubital joints of palpi equal, and claws of pincers equal to the bulb in length.

R. Cambridgii.

ii. Humeral joints distinctly longer than the cubital and claws of pincers longer than the bulb.

R. lubricus.

RONCUS CAMBRIDGII. Pl. B, fig. 9.

Syn: *Roncus Cambridgii*, L. Koch. Darst. Eur. Chernet, p. 45 (1873).
 „ *Obisium lubricum*, E. Simon. Arachn. de France, tom. 7, p. 63 (1879).

Length slightly over 1 line.

The *cephalothorax* is roundly truncated before; of a yellow-brown colour slightly tinged with reddish. The palpi and falces much more strongly tinged with red; the claws of the pincers reddish; the plates of the abdominal segments dull brownish and the legs of a paler hue. The eyes are small, round, and rather more than a diameter's distance from the fore-margin of the caput.

The *palpi* are of moderate length, rather strong, the humeral and cubital joints as nearly as possible equal in length, the latter has a very distinct neck or stem at the base, abruptly enlarging into a somewhat roundish oval form in front. The claws of the pincers are slightly curved and equal to the bulb in length. The hairs with which this species is clothed are few, fine, and simple.

This is a rather scarce species; I have only found it myself occasionally among moss and dead leaves in woods at Bloxworth, but a specimen in the British Museum was found on Dartmoor. It does not appear to have been met with in Germany, and but sparingly in France, South Italy, Austria, Algeria, and Morocco. It was described in 1873 as a new species by Dr. Ludwig Koch from specimens sent to him by myself from Bloxworth. M. Simon by some oversight has this species in his *Araneides de France*, under the specific name of *lubricum*, while he gives the name *Cambridgii* to *R. lubricus*, L. Koch.

RONCUS LUBRICUS. Pl. B, fig. 10.

Syn: *Roncus lubricus*, L. Koch. Darst. Eur., Chernet (1873), p.m. 44.
 „ *Obisium Cambridgii*, E. Simon. Arachn. de France, tom. 7, p. 64 (1879).

Length 1 line, or a little more.

Cephalothorax and *falces* yellow-brown and very glossy ; *palpi* red-brown ; *abdomen* dull yellowish-brown ; *legs* pale dull yellowish ; *eyes* small, round, removed nearly 2 diameters distance from the fore-margin of the caput ; *palpi* long strong ; humeral joint distinctly longer than the cubital ; claws of the pincers curved and distinctly longer than the bulb.

This species is very nearly allied to *Roncus Cambridgii*, resembling it in general form and colours ; but it may be readily distinguished by the rather longer palpi, the claws of the pincers being longer than the bulb and the humeral longer than the cubital joint, as well as the rather greater interval between the eyes and the fore-margin of the caput. I have only met with four specimens of this rare species, one of which is the type from which Dr. Ludwig Koch described the species in 1873. This specimen and one other were found among moss in a wood at Bloxworth, one under a stone at Pokeswell, and the fourth was found by my nephew (F. O. P. Cambridge) some years ago under a stone near Sherborne. It has occurred, though rarely, in France, but, so far as I am aware, nowhere else on the Continent.

GEN : CHELIFER, Geoffr. at partem.

Cephalothorax longer than broad ; broadish behind and narrowing gradually to the fore extremity. It is divided transversely into three portions by two more or less strong constrictions or grooves ; the anterior portion forms the caput and is divided off by the stronger of the grooves, and the posterior portion is usually half of the width of the central portion, the caput and the central portion being generally of equal or nearly equal width. The central and posterior portions form the thorax. The surface is generally either granulose or shagreened or both ; the hairs with which the cephalothorax and abdomen (and at times the legs and palpi) are furnished are at times short and obtuse, or more or less claviform, though sometimes fine. The upper abdominal plates are 11, the first 10 divided longitudinally. The falces are small and do not occupy the whole width of the caput. The legs are short and

the extra joint (trochantin Sim.) is found in all four pairs. The eyes, two in number, are of tolerable size, of a flattened form and opaque appearance, situated close to the fore corners of the caput.

Five species of this group have been met with in England—*Chelifer Hermannii* Leach, *Chelifer cancroides* Linn, *C. meridianus* L. Koch, *C. subruber* E. Sim, and *C. Latreillii* Leach.

The species may be distinguished shortly as follows:—

a. Hairs clavate.

i. Palpus long, slender.

a' Cubital joint of palpus very slightly, if at all, shorter than the humeral; palpi of a very attenuated form. *C. Hermannii* Leach.

a'' Cubital joint distinctly (but not greatly) shorter than the humeral, and palpi generally stouter.

C. cancroides Linn.

ii. Palpus robust.

a' Claw of pincers equal to the bulb in length; hairs on palpi generally clavate. *C. meridianus*.

a'' Claw of pincers shorter than bulb; hairs on palpi mostly obtuse, if any clavate.

C. subruber Sim.

b. Hairs simple (not clavate).

C. Latreillii Leach.

CHELIFER HERMANNII. Pl. B, fig. 11.

Syn: *Chelifer Hermannii*, Leach. Zool. Miscell. 3, p. 49, pl. 142, fig. 3.

Length, 1½rd lines.

Colour, yellow-brown; the *cephalothorax* rather the darkest, the legs and palpi palest. The eyes are in the normal position. The Cephalothorax is divided into three portions, the two anterior of which are of nearly equal width; the posterior part half the width of the middle portion. The constrictions between these parts are moderately strong. The abdominal plates are furnished with short clavate hairs. The hairs had been rubbed off the cephalothorax and palpi.

The *palpi* are long and slender ; the humeral joint is very slightly longer than the cubital ; the pincers nearly as long as the humeral and axillary joints together ; the bulb and claws are equal in length, the bulb being, if anything, rather shorter than the cubital joint. When looked at sideways the bulb is exactly cylindrical—*i.e.*, equal in width throughout.

The above description was made from Leach's type specimen in the British Museum collection. Leach gives us its habitat as—“under the bark of trees.”

M. Simon, Arachn. de France, tom. 7, includes *C. Hermannii* among the synonyms of *Chelifer cancroides*, Linn. ; but after careful comparison of a typical French example of this latter, received from M. Simon, it appears most probable that the two are distinct, though very nearly alike. *C. Hermannii* is not only smaller, but the palpi are of a distinctly longer slenderer form ; its habitat, also “under the bark of trees,” points to its specific difference.

CHELIFER CANCROIDES. Pl. B., fig. 12.

Syn : *Acarus cancroides*, Linn, Faun. Suec., No. 1,968 (1761).
Phalangium cancroides, Linn, Syst. Nat. Ed. xii., part 2, p. 1,028 (1767).

Chelifer cancroides, Sim., Arachn. de France, tom. 7, p. 23, 1879 (exclude reference to *C. Hermannii*, Leach).

Length $1\frac{3}{4}$ ths to 2 lines.

Cephalothorax and *palpi* dark yellow-brown, *legs* and *abdomen* paler. Similar in general form and appearance, and, as far as could be observed, in the possession of clavate hairs, to *C. Hermannii*, Leach ; but may be distinguished not only by its larger size and darker colouring, but by the distinctly more robust form of the palpi ; the bulb of the pincers is equal in length to the cubital joint, the cubital joint is distinctly, though not very much, shorter than the humeral. The present species, moreover, is found in houses and outbuildings, among old rubbish, &c. ; while *C. Hermannii* is found under the bark of trees. Four examples are in the British Museum collection. Two of these were found in

buildings at Peckham, another in an old account book in London, and the fourth in an old building at Westminster. These all agree well with typical European examples received from M. Simon, and, after a careful examination of the type of *Acarus cancroides* in the Linnean Society's cabinet, I believe them to be the same as the species described by Linnæus. The drawing from which the figures of this species were engraved was made for me by Miss Fisher, of Fulham-road, London, from one of the Peckham specimens in the British Museum.

CHELIFER MERIDIANUS. Pl. C, fig. 15.

Syn: *Chelifer meridianus*, L. Koch. Darst. Eur. Chernet., p. 20 (1873), and Simon, Arachn. de France, tom. 7, p. 25 (1879).

Length rather over 1 line.

Cephalothorax dark yellowish-brown, its surface thickly shagreened, and granulose on the margins. *Palpi* tinged with reddish, surface shagreened, in some parts granulose. *Abdominal plates* shagreened and dark yellow-brown. *Legs* pale yellow-brown. The hairs on the cephalothorax, palpi, and abdomen are short, pale, and all clavate.

The *caput* is broader (from front to back) than the thorax, of which last the hinder portion is less than half its breadth.

The *eyes* are large, but indistinct, and about half a diameter's distance from the fore margin of the *caput*.

The *palpi* are rather short, strong; the axillary joint is strongly and roundly protuberant on the upper side, as well as underneath on the posterior side. The humeral is longer than the cubital joint, and the cubital is strongly protuberant on the inner side towards the hinder extremity. The bulb of the pincers is of the same length as the cubital joint, and the claws, which are slightly curved, are equal to the bulb in length; this last is short, stout, and broadest near the hinder extremity. The shorter, stronger palpi, and their clavate hairs, as well as the equal length of the claws and bulb of the pincers, will serve to distinguish this species at a glance from *C. subruber*.

A single example was found some years ago among dead leaves, &c., in a wood at Bloxworth, and determined by M. Simon to be *C. meridianus*, L. Koch.

CHELIFER SUBRUBER. Pl. C, fig. 14.

Syn: *C. subruber*, Simon Arachn. de France, tom. 7, p. 30 (1872).

Length 1 line to $1\frac{1}{2}$.

Cephalothorax yellow-brown, slightly tinged with red; *palpi* red-brown; *abdominal plates* deep brown; *legs* pale yellow-brown. The surface of the cephalothorax and abdominal plates is densely shagreened; the sides of the thorax are granulose; each of the abdominal plates is furnished with a row of short claviform hairs on the hinder margin. The hairs on the cephalothorax are also clavate. Some of the hairs on the palpi are obtuse, some clavate; those on the claws of the pincers fine. The groove dividing the caput and thorax is strong, and the posterior portion of the thorax is half its width. The caput and thorax are of nearly about equal width. The anterior margin of the caput is strongly and somewhat roundly obtuse, and the eyes, which are large, are placed nearly half a diameter's length from it.

Palpi moderately long, tolerably strong; the axillary joint is strongly and obtusely protuberant on the upper side; the humeral and cubital joints are of equal length. The claws of the pincers are slightly curved and considerably shorter than the bulb, the latter being equal in length to the cubital joint without its stem; the bulb narrows gradually to the claws, running into them without any decided or abrupt depression.

This species is allied to *C. meridianus*, L. Koch, but may be distinguished among other characters by the claws being distinctly shorter than the bulb of the pincers, whereas in *C. meridianus* they are of equal length.

Examples were kindly sent to me by Mr. W. P. Haydon, by whom they were found in an oil mill at Dover in January, 1880; and I have since (November, 1886) received numerous examples

from the Rev. F. O. P. Cambridge, by whom they were found in an old building at Hyde, near Bloxworth. The Dover examples have been examined and verified by M. Simon. I have also received it from Mr. C. G. Bignell, found near Plymouth.

CHELIFER LATREILLII. Pl. B, fig. 13.

Syn: *Chelifer Latreillii*, Leach. Zool. Misc. 3, p. 49, pl. 142, fig. 5.

„ „ *Degeerii*, C. Koch, Die. Arachn. x., p. 53, fig. 788, 789 (1843).

„ „ „ E. Simon, Arachn. de France 7, p. 22 (1871).

Length $1\frac{2}{3}$ rds of a line.

Cephalothorax dark brown tinged with olive.

Palpi rich deep brown tinged with red, bulb of pincers deepest, and claws clearer red; *falces* and legs pale yellowish-brown; *abdominal plates* yellowish-brown, divided by a longitudinal line. The hairs on the legs short, mostly fine, and simple; those on the cephalothorax, the palpi (except the claws), and on the abdomen are short and obtuse, but not claviform. The surface of the cephalothorax, abdomen, and palpi is thickly and finely granulose. The claws of the pincers are curved and equal in length to the bulb, and the humeral joint is a little longer than the cubital. The anterior transverse indentation of the cephalothorax is, as nearly as possible, midway between the fore and hinder extremity.

The *eyes* are of good size, round, and placed at somewhat more than a diameter's distance from the fore margin of the caput.

This species is nearly allied to *C. cancrioides*, but may be distinguished by the non-clavate hairs on the palpi and abdomen, the less size, and strength of the pincers, and its brighter, more varied colours; the form of the bulb also differs, being of a much broader, more oval shape. I have received this species from Mr. C. W. Dale, Glanvilles Wootton; also from Mr. E. A. Butler, Hastings; from Mr. Matthews, Sandwich and Deal; as well as from near Berwick on-Tweed; from Mr. J. E. Mason, Alford, Lincolnshire; and

from Mr. W. F. Blandford, from Deal. All the specimens agree with the type in the British Museum of Dr. Leach's *Chelifer Latreillii*.

Group III. *Eyes none.*

Two British Genera—*Chernes*, Menge, and *Chiridium*, Menge—are comprised in this group:—

- i. Cephalothorax divided into three portions—*Chernes*.
- ii. Cephalothorax divided into two portions—*Chiridium*.

GEN: 1. CHERNES, Menge (*Chelifer* Simon, ad partem).

The characters of this genus are very similar to those of *Chelifer*, except in the want of eyes, which distinguishes it at a glance. The anterior transverse furrow dividing the caput and thorax appears also to be usually less strong. Five species have been found in Great Britain, two of them being apparently new to science.

These five species may be diagnosed as follows:—

i. *Hairs simple.*

- a. Bulb of pincers very nearly, or quite, as broad as long, and claws shorter than bulb.

C. insuetus, sp. n.

- b. Bulb of pincers distinctly longer than broad; claws equal to bulb in length. *C. nodosus*, Schr.

ii. *Hairs clavate.*

- a. Bulb of pincers very tumid, but slightly longer than broad; claws equal to bulb in length.

C. cimicoides, Fabr.

- 'a. Bulb less tumid and distinctly longer than broad; claws, at least the moveable one, a little longer than bulb.

- a. Hairs strongly and uniformly clavate, and an impression at the middle of the hinder part of the caput.

C. phaleratus, L. Koch.

- b. Hairs less strong and many simple; no impression behind caput. *C. dubius*, sp. n.

CHERNES NODOSUS. Pl. C, fig. 16.

Syn : *Chelifer nodosus*, Schrank. Fn. Boic. III., p. 246 (1803), and Simon Arachn. de France, tom. 7, p. 33 (1879).

Length slightly over 1 line.

Cephalothorax and *palpi* yellowish red-brown, the former rather duller than the latter. *Abdominal segments* yellow-brown ; *legs* paler. The *caput* and first segment of the thorax are of equal width (from back to front) ; the second segment of the thorax is very narrow. The surface of the cephalothorax and abdominal segments is very finely shagreened, the latter granulose on the sides. The hairs on this part, as well as on the palpi and abdomen, are simple, but obtuse. The *palpi* are rather short and strong. The axillary joint is considerably and somewhat sub-conically protuberant above, as well as protuberant near its base underneath. The humeral joint at its widest part, behind, is considerably less broad than long ; the cubital joint is very tumid on its inner side ; the bulb of the pincers is distinctly longer, to the base of the fixed claw, than its width behind ; and the claws are slightly curved and equal to the bulb in length.

This is a widely dispersed species. All I have yet seen have been found attached by the forceps or pincers of the palpi to the leg of a fly. I have received it thus attached, from Mr. C. W. Dale, Glanville's Wootton ; from Mr. R. H. Meade, Bradford, Yorkshire ; Mr. F. M. Campbell, Hoddesdon, Hertfordshire ; Rev. F. O. P. Cambridge, Carlisle ; Mr. Stoddart, Bristol ; Mr. G. C. Bignell, Stonehouse, Devon ; and Mr. Denison Roebuck, from near Leeds and Bradford, Yorkshire.

CHERNES INSUETUS (sp. nov.) Pl. C, fig. 17.

Length $1\frac{1}{2}$ lines.

Cephalothorax red-brown ; *palpi* of the same, but of a clearer brighter hue. The *thorax* is rather paler than the *caput*, which is much broader from front to back than the first segment of the thorax. The *legs* are pale brownish-yellow. The hairs are all fine and simple. The *palpi* are short and very strong. The axillary

joint is exceedingly protuberant in a sub-conical form, both above and beneath. The humeral joint is very strong, its width behind at the broadest part being more than half its length, and the cubital joint is excessively gibbous on its inner side. These two last joints are about equal in length. The bulb of the pincers is nearly or quite as broad as long, the claws being slightly shorter than the bulb and a very little curved.

Examples of this distinct species were sent to me from Dover in October, 1880, by Mr. W. P. Haydon, by whom they were found among débris and refuse in company with *Chelifer subruber* Sim., in his oil mills. Mons. Simon determined them to be new to science. It may easily be distinguished from *Chernes nodosus*, to which it is allied, by its larger size and much stronger palpi, the joints of which are differently proportioned.

CHERNES CIMICOIDES. Pl. C, fig. 18.

Syn: *Scorpio cimicoides*, Fabr. Ent. Syst. iii., p. 436, No. 9 (1793).

- „ *Chelifer Geoffroyi*, Leach, p. 50 }
- „ „ *Olfersii*, Ibid., p. 50 } Zool. Misc. iii. (1817).
- „ „ *fasciatus*, Ibid., Trans. Linn. Soc. Lond. xi., p. 391 (1815).
- „ „ *cimicoides*, Sim. Arachn. de France, tom. 7, p. 39, pl. 18, fig. 16.
- „ „ *Hahnii*, C. Koch. Arachn. x., p. 51, fig. 787 (1843).

Length $1\frac{1}{2}$ lines.

Of a short broad form. *Cephalothorax* dark yellow-brown; *palpi* deep red-brown; *abdominal segments* dark yellowish-brown; *legs* pale dull brownish-yellow. The surface of the cephalothorax is finely shagreened, and, as well as the palpi, abdomen, and legs, furnished with strong clavate hairs. The palpi are moderately long, strong, and the axillary joint is very obtusely or roundly prominent above; the bulb of the pincers is very robust, a little longer than broad, and the claws are slightly curved and rather

shorter than the bulb. The strong clavate hairs will serve to distinguish it at a glance from either of the foregoing species of the genus.

I have met with this species, though very rarely, under decaying bark of trees at Bloxworth, and have received it from Mr. C. W. Dale, Glanville's Wootton ; Mr. J. C. Bignell, Stonehouse, Devon ; Mr. W. F. Blandford, Marlborough and the New Forest ; and from the late Mr. W. Farren Cambridge. Among the synonyms of these species I have included three of the species described by Leach as having two eyes (*C. fasciatus*, *C. Olfersii*, and *C. Geoffroyi*). The type, however, in the British Museum of Leach's *C. Geoffroyi* has no eyes and is certainly identical with *Chernes (Chelifer) cimicoides*, while from the damaged condition of the type of *C. Olfersii* it is impossible to say with certainty what it is, though probably, from its general appearance, and its clavate hairs, it is also identical with *C. cimicoides*. *Chelifer fasciatus*, Leach, is given by himself as identical with his *C. Geoffroyi*, and no doubt it is so.

CHERNES DUBIUS (sp. n.) Pl. C, fig. 19.

Length slightly over 1 line.

Cephalothorax, regularly rounded in front, yellow-brown ; *caput* broader from back to front than the thorax, and the transverse grooves much curved ; *palpi*, yellowish red-brown ; *abdominal segments*, pale yellow-brown ; *legs*, paler. (The colours in the only two specimens in my possession have evidently rather faded, and therefore the natural colour of this species will have been probably darker and richer than above described.)

The cephalothorax, palpi, legs, and abdomen are all furnished with not very robust yellowish slightly claviform hairs.

The *Palpi* are long ; the pincers long and strong ; the bulb is as nearly as possible equal in length to the fixed claw ; the axillary joint is protuberant above near its anterior extremity ; the humeral and cubital joints are equal in length, the latter rather gibbous towards its base on the inner side. I found a single example of

this species among *débris* during a visit to the late Mr. J. C. Dale at Glanville's Wootton some years ago, and another was subsequently sent to me from Sherborne by my nephew (Fredk. O. P. Cambridge).

It may easily be distinguished from *C. cimicoides* by the longer less strong palpi, and by the less strong and not so thickly or uniformly disposed clavate hairs; from the other two British species of this genus it may be known by its having *clavate* and not simple hairs. The two specimens noted were determined by M. Simon, at the time of their capture, to be the *Chelifer phaleratus*, Sim.; and an example in the British Museum collection was found at Hillingdon, Middlesex; but on submitting to him a short time since examples found in the New Forest (see next species) there seems no doubt that these latter examples are the true *C. phaleratus*, Sim., and, though M. Simon thinks that the two others may be less developed examples of the same species, I have come to the conclusion, after careful examination and comparison, that the differences pointed out warrant (at any rate for the present) their being described as distinct, and if so probably new to science. Their habitat (among moss) differs also from that of the New Forest specimens, which were found under bark of trees.

CHERNES PHALERATUS. Pl. C, fig. 20.

Syn: *Chelifer phaleratus*, Sim. Arachn. de France, tom. 7, p. 38, pl. 18, fig. 12 (1879).

Length $1\frac{1}{4}$ lines.

Cephalothorax and *palpi* reddish yellow-brown; *abdomen* darker reddish-brown; *legs* pale yellowish-brown; *caput* and *thorax* of equal width, the posterior division of the latter rather narrower than the anterior. The whole surface is densely shagreened, more coarsely on the cephalothorax than elsewhere. The hairs are mostly clavate and of a reddish or ferruginous hue. Some, however, on parts of the palpi and legs, are simple. The transverse indentations of the cephalothorax are strong, especially that defining the *caput*, and in the centre of this indentation is a rather

marked impression running and losing itself a little way towards the middle of the caput.

The *palpi* are rather long and strong ; on the upper side of the axillary joint is a strong roundly obtuse eminence, with a lesser one on the under margin. The humeral and cubital joints are of equal length. The hinder part of the humeral joint is broadest and its lower corner moderately abrupt, but not angular. The cubital joint is as strong as the humeral and tumid (but not abruptly so), on the middle of its inner side, the outer marginal line forming an even curve. The bulb of the pincers is robust, broad at the base and narrowing gradually to the claws, which are equal to the bulb in length (the moveable claw slightly longer), and curved, but not strongly so. The length of the bulb is equal to that of the cubital joint.

This species is nearly allied to the foregoing (*C. dubius*, Camb.), but is a little larger and its surface is more coarsely shagreened. The bulb of the pincers also is rather more robust in proportion ; the humeral joint of the palpus is straighter on the inner margin ; the cubital joint is less gibbous near its posterior extremity on the inner side, and the marginal posterior line is not uniformly curved ; and in *C. dubius* there is no impression at the middle of the hinder part of the caput ; the hairs also in *C. phaleratus* are much more strongly and uniformly clavate than in *C. dubius*.

Examples of this species were kindly sent to me by Mr. W. F. Blandford, by whom they were found under bark of trees in the New Forest in May, 1890, and are undoubtedly the true *C. phaleratus*, Sim.

GEN. 2. CHIRIDIUM (Menge).

Cephalothorax as long as broad ; very broad at the hinder extremity and narrowing gradually to a broadish obtuse point in front. The *abdomen* is of a broad-oval form, broadest behind and continuing to enlarge gradually from its junction to the thorax ; it has ten segments above divided by a longitudinal line. The cephalothorax is divided near the middle by a deep transverse

groove or indentation, the posterior indentation (more or less visible in the genera *Chelifer* and *Chernes*), except is scarcely represented as a shallow depression. *Eyes* none; *falces* very small; *legs* short, supernumerary joint (*trochantin*) very short and only on the third and fourth pairs. The moveable claw of the falces ends with a membranous galea.

One species only of this genus is as yet recorded in Britain. France possesses one other.

CHIRIDIUM MUSEORUM. Pl. C, fig. 21.

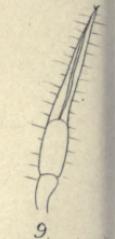
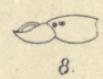
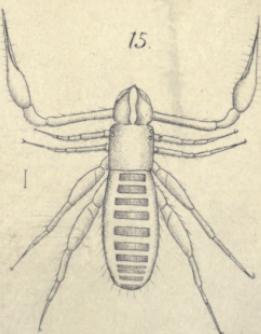
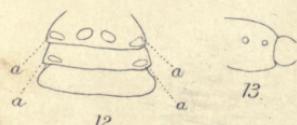
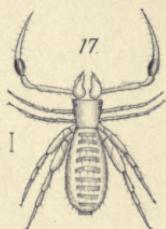
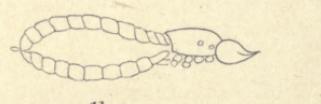
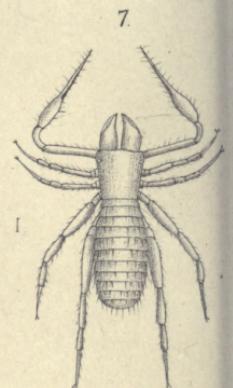
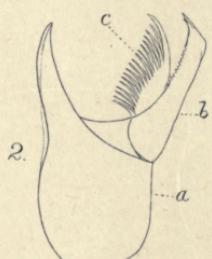
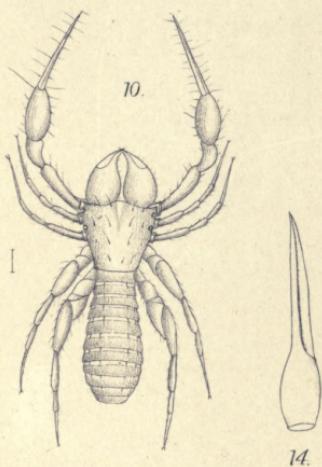
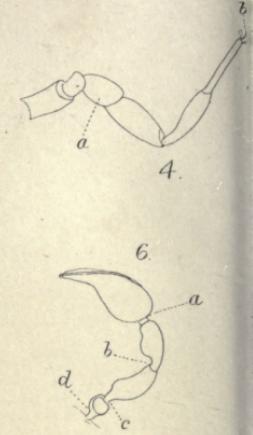
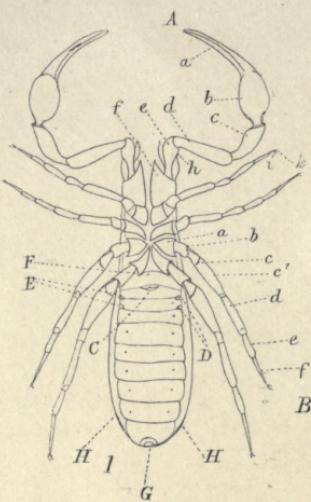
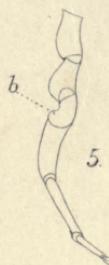
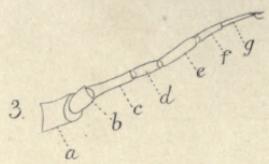
Syn: *Chelifer museorum*, Leach. Zool. Misc. iii., p. 50, pl. 142, fig. 4 (1817).

„ *Chiridium museorum*, Simon. Arachn. de France, tom. 7, p. 43, pl. 18, fig. 19, 20.

Length $\frac{2}{3}$ rds of a line.

The *cephalothorax* and *abdomen* are together of a broadish regular oval form, pointed in front and round behind. *Cephalothorax* and *palpi* dark red-brown, *abdominal segments* rather paler. The surface of *cephalothorax*, *abdominal segments*, and *palpi* are densely and rather coarsely granulose. The transverse indentation is strong, and the *cephalothorax* is also longitudinally depressed or indented, at least in the only examples I have, which are dried and mounted on card. The hairs are very short, fine, simple, and white. *Palpi* rather long, not very strong; *humeral joint* distinctly longer than the *cubital*. The bulb of the pincers and the claws are equal in length. The *axillary joint* is strongly and doubly protuberant at its base on the outer side.

This little species cannot well be mistaken for any other one of the *Chernetidea*. It is found in old houses, under bark of trees, among old books, &c. It appears to be rare in Great Britain. Examples were sent to me some years ago from Glanville's Wootton by Mr. C. W. Dale, and I have a specimen taken at Bloxworth, as well as one found under old bark in Epping Forest by my son (R. J. P. Cambridge). Mr. C. F. George, of Kirton-in-Lindsay, Lincolnshire, tells me he once found a great number of this species



DESCRIPTION OF PLATE A.

Fig. 1. *Obisium muscorum* Leach. Outlines of under side, enlarged, to shew different portions of structure.

- A. *Palpus*—*a*, claws of pincers; *b*, bulb of do.; *c*, cubital joint; *d*, humeral joint; *e*, axillary joint; *f*, maxilla; *h*, falx.
- B. Leg of 3rd pair—*a*, coxa; *b*, exinguinal joint; *c*, trochantin; *c*, femur; *d*, tibia; *e*, metatarsus; *f*, tarsus.
- H. Under side of abdomen shewing transverse segments.
- G. Anal aperture with terminal button.
- D. E. Spiracular orifices. C. Orifice of spinning apparatus.
- C. Site of spinning apparatus.
- F. Genital apertures.

Fig. 2. One of falces enlarged with fangs open—*a*, basal joint; *b*, articulated fang; *c*, serrula.

Fig. 3. Leg of 1st pair more enlarged—*a*, coxa; *b*, trochanter on exinguinal joint; *c*, femur; *d*, general joint; *e*, tibia; *f*, metatarsus; *g*, tarsus.

Fig. 4. Leg of 1st pair of *Chernes cimicoides*—*a*, trochantin; *b*, termina; claws.

Fig. 5. Leg of 4th pair of do.—*b*, trochantin.

Fig. 6. Palpus of *Chelifer meridianus*—*a*, *b*, *c*, *d*, stems of the several joints,

Fig. 7. *Chthonius orthodactylus* Leach.

- ,, 8. Profile outline of cephalothorax and falces of do.
- ,, 9. Part of palpus of do.

Fig. 10. *Chthonius Rayi* L. Koch.

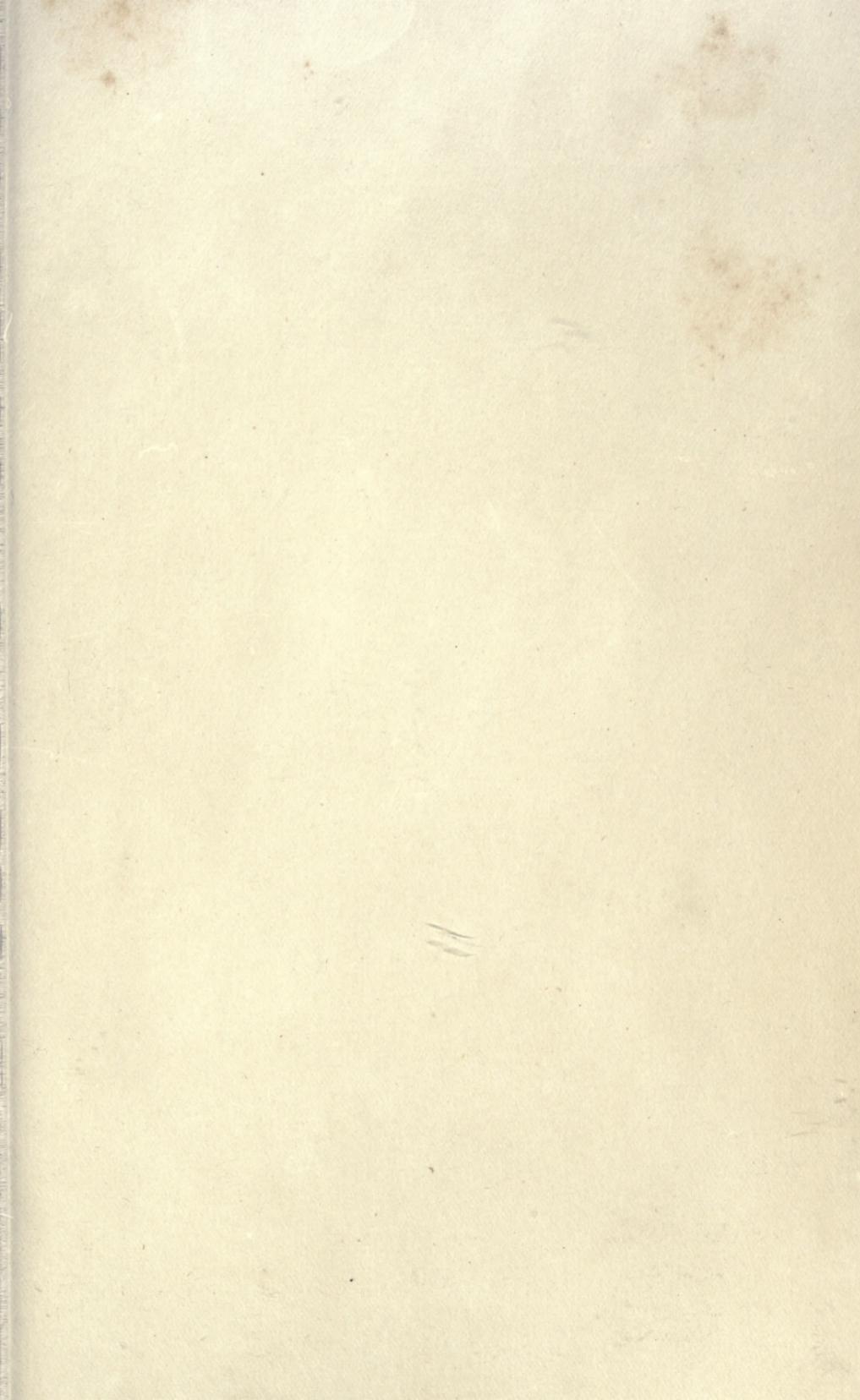
- ,, 11. Profile outline of do. without legs or palpi.
- ,, 12. Portion of under side of abdomen of do. *a*, *a*, *a*, *a*, spiracular openings.
- ,, 13. Profile outline of portion of cephalothorax and falces do.
- ,, 14. Pincers of palpus do.

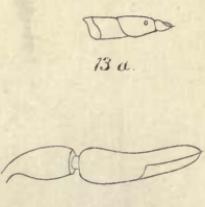
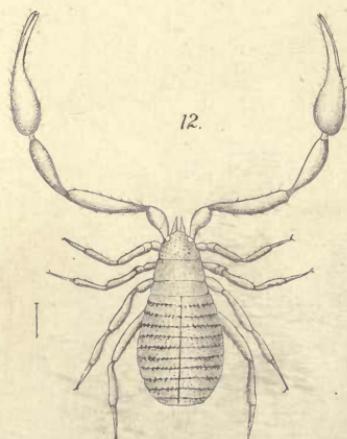
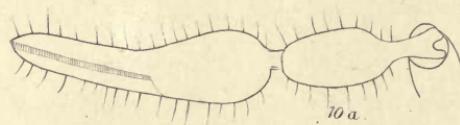
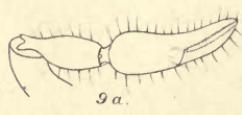
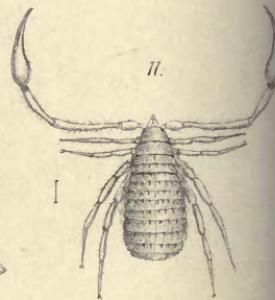
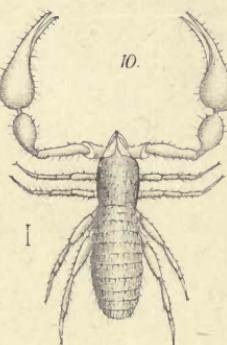
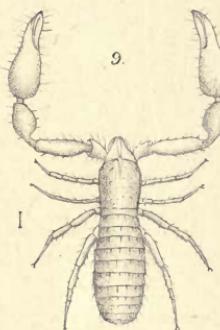
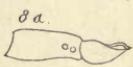
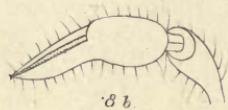
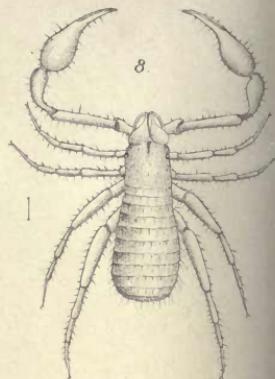
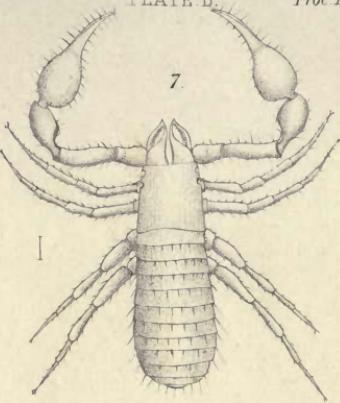
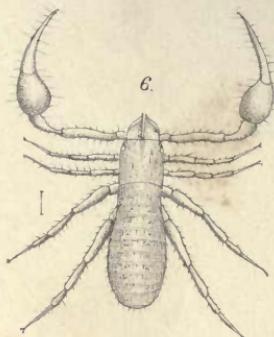
Fig. 15. *Chthonius tetrachelatus* Preyss.

- ,, 16. Portion of palpus of do. *a*, indented bulb.

Fig. 17. *Chthonius tenuis* L. Koch.

- ,, 18. Profile outline of cephalothorax and falces of do.
- ,, 19. Pincers of palpus do.





DESCRIPTION OF PLATE B.

Fig. 6. *Obisium muscorum* Leach.

- 6a. Profile outline of cephalothorax and falces do.
- 6b. Pincers of palpus do.

Fig. 7. *Obisium sylvaticum* C. L. Koch.

Fig. 8. *Obisium maritimum* Leach.

- 8a. Profile outline of cephalothorax and falces ; 8b, 8c, pincers of palpus in two positions.

Fig. 9. *Roncus Cambridgii* L. Koch.

- 9a. Palpus ; 9b, profile outline of cephalothorax and falces.

Fig. 10. *Roncus lubricus* L. Koch.

- 10a. Portion of palpus of do. ; 10b, profile outline of Cephalothorax and falces.

Fig. 11. *Chelifer Hermannii* Leach.

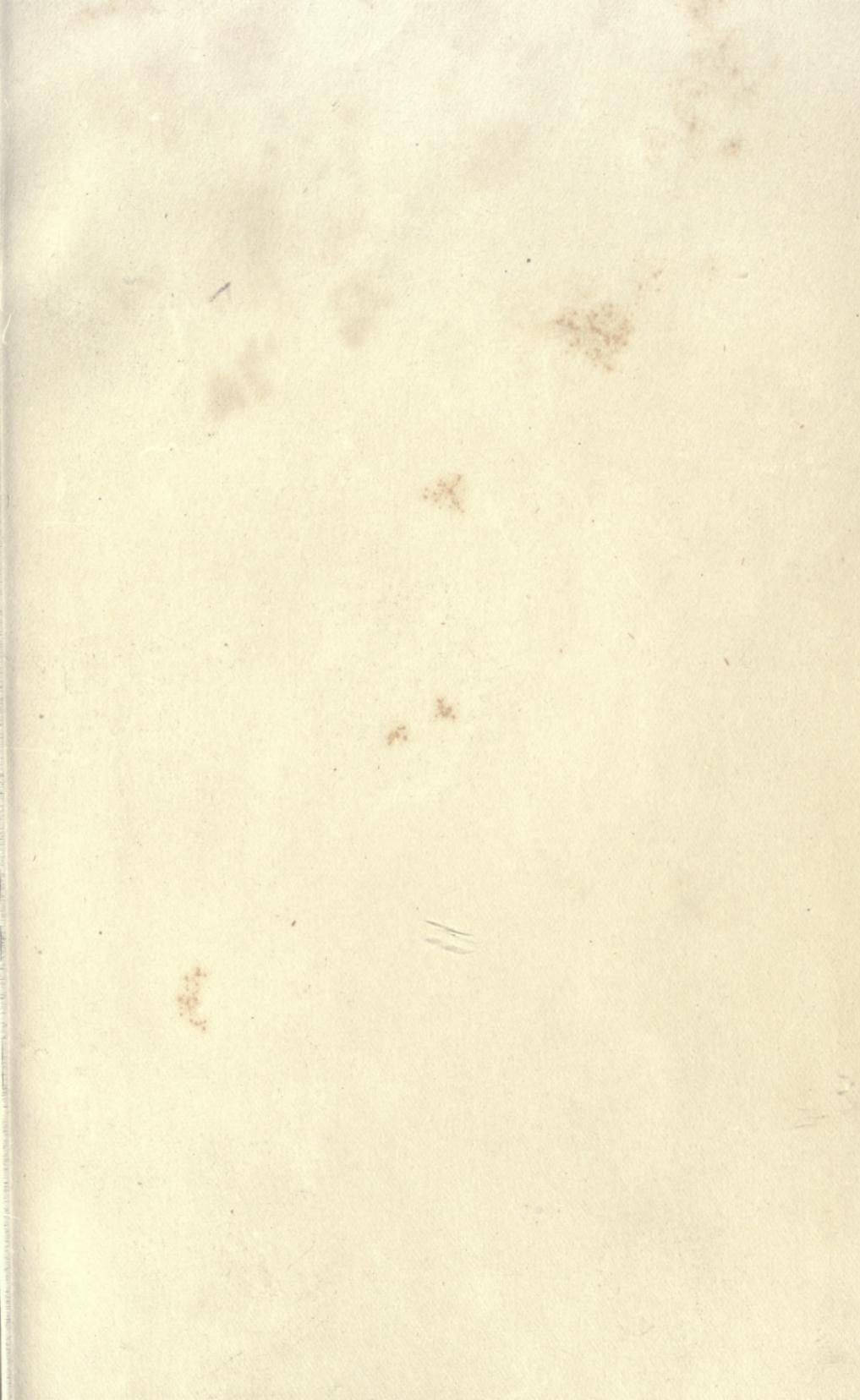
- 11a. Pincers of palpus viewed sideways.

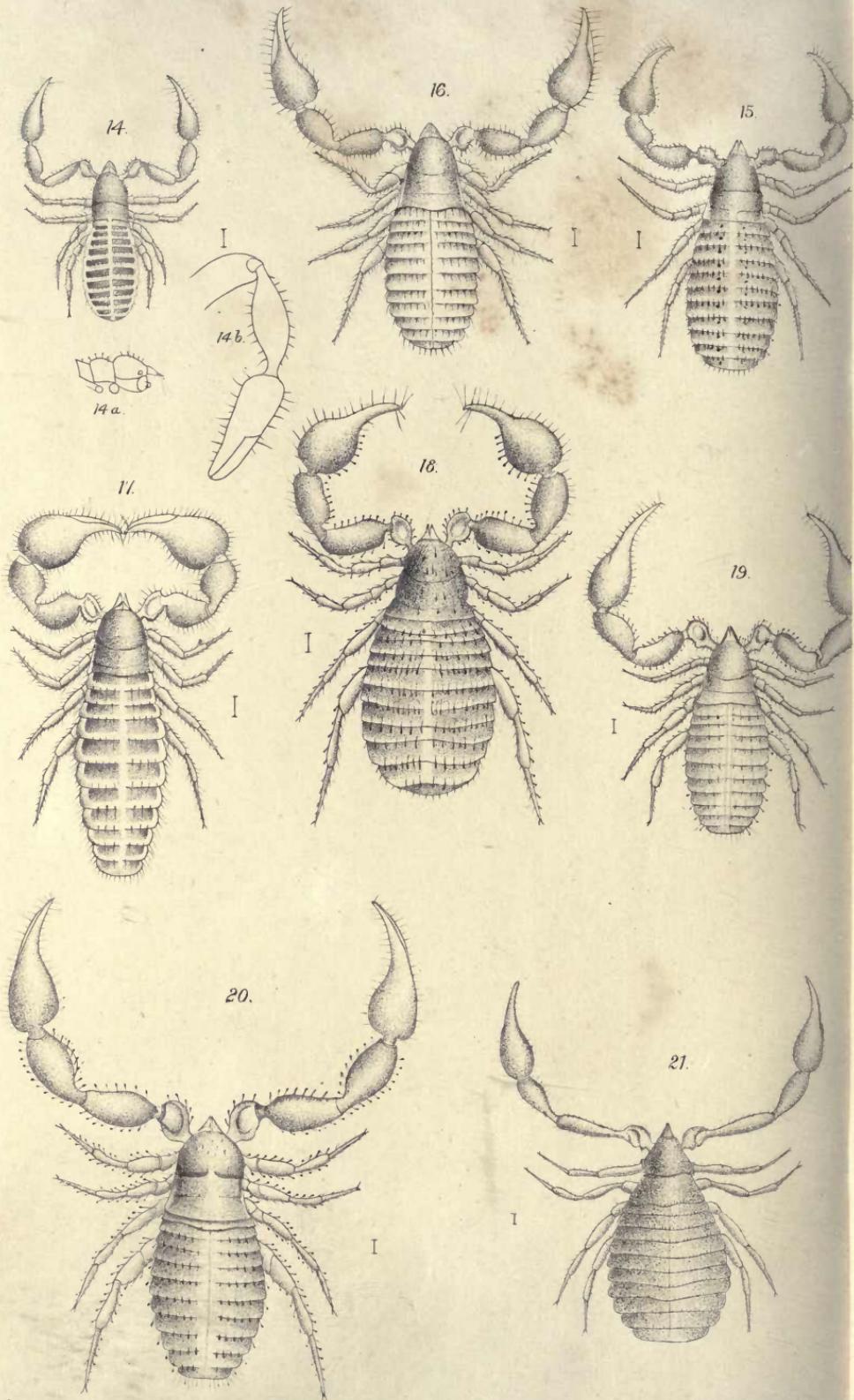
Fig. 12. *Chelifer cancroides* Linn.

- 12a. Pincers of palpus viewed sideways ; 12b, profile outline of Cephalothorax and falces do.

Fig. 13. *Chelifer Latreillii* Leach.

- 13a. Profile outline of cephalothorax and falces do. ; 13b, pincers of palpus do. viewed sideways.





DESCRIPTION OF PLATE C.

Fig. 14. *Chelifer subruber* Sim.
14a. Profile of cephalothorax and falces do. ; 14b, palpus do.
Fig. 15. *Chelifer meridianus* L. Koch.
Fig. 16. *Chernes nodosus* Schrank.
Fig. 17. *Chernes insuetus* Sp. nov.
Fig. 18. *Chernes cimicoides* Fabr.
Fig. 19. *Chernes dubius* Sp. nov.
Fig. 20. *Chernes phaleratus* Sim.
Fig. 21. *Chiridium museorum* Leach.

PAPER ON FALSE SCORPIONS.

ERRATA.

p. 231. *Chelifer meridianus*—For plate B, fig. 15, read plate C, fig. 15.
,, *Chelifer Latreillii*—For plate C, fig. 13, read plate B, fig. 13.

in a deserted sparrow's nest, and I have also received it from Mr. Beulah, near Brigg, in the same county.

LIST OF SPECIES, WITH REFERENCE TO PAGE, PLATE, AND FIGURES.

<i>Chthonius orthodactylus</i>	p. 209, pl. A, fig. 7
<i>Rayi</i>	p. 209, pl. „, fig. 10
<i>tetrachelatus</i>	p. 210, pl. „, fig. 15
<i>tenuis</i>	p. 211, pl. „, fig. 17
<i>Obisium muscorum</i>	p. 212, pl. „, fig. 1, & pl. B, fig. 6
<i>sylvaticum</i>	p. 214, pl. B fig. 7
<i>maritimum</i>	p. 215, pl. „, fig. 8
<i>Roncus Cambridgii</i>	p. 217, pl. „, fig. 9
<i>lubricus</i>	p. 217, pl. „, fig. 10
<i>Chelifer Hermannii</i>	p. 219, pl. „, fig. 11
<i>cancroides</i>	p. 220, pl. „, fig. 12
<i>meridianus</i>	p. 221, pl. „, fig. 15
<i>subruber</i>	p. 222, pl. C fig. 14
<i>Latreillii</i>	p. 223, pl. „, fig. 13
<i>Chernes nodosus</i>	p. 225, pl. „, fig. 16
<i>insuetus</i> , sp. n.	p. 225, pl. „, fig. 17
<i>cimicoides</i>	p. 226, pl. „, fig. 18
<i>dubius</i> , sp. n.	p. 227, pl. „, fig. 19
<i>phaleratus</i>	p. 228, pl. „, fig. 20
<i>Chiridium museorum</i>	p. 230, pl. „, fig. 21





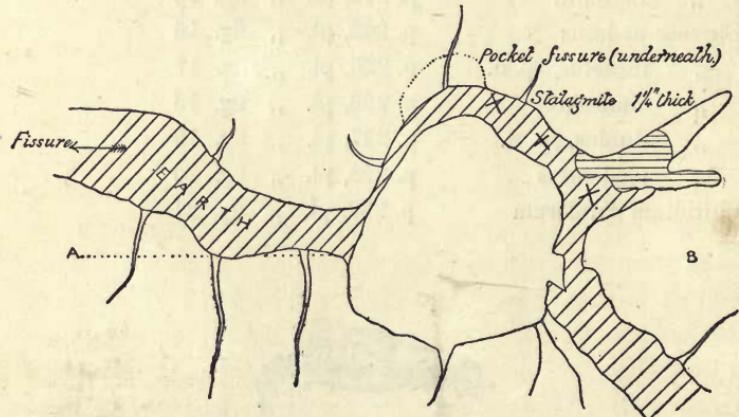
An Ancient Enterment on the Verne, Portland.

By J. C. MANSEL-PLEYDELL, Esq., F.G.S.,
F.L.S.

Read before the Members December 9th, 1891.



FAVoured by the courtesy of Colonel Russell, Commandant of the Weymouth District of the Royal Engineers, who kindly invited me to examine some human and other remains from a fissure in one of the Government quarries on the Verne at Portland, I am able to communicate to the members of the Field Club some details of a

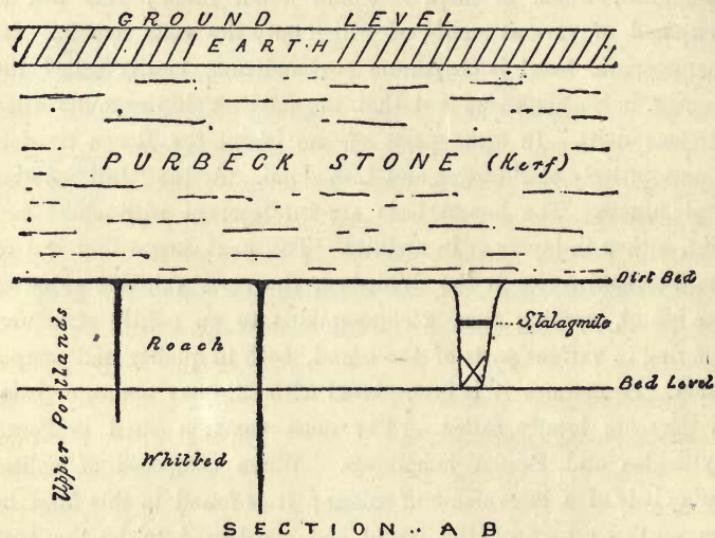


X Position where bones were found.

PLAN Scale 5'-1"

very ancient interment. Fissures are not uncommon in the island ; varying from one foot to several feet, and are for the most part widest at the bottom, narrowing as they approach the surface. Human remains have been found in other fissures of the island associated with the bones of large animals—mammoth, deer, wild-boar, ox, &c.—neither waterworn, nor showing signs of attrition. Similar bones may be seen in the cases of the Royal Engineers' office from the quarries on the Verne. The strata in connection with the fissure and through which it passes are the cap, skull-cap, and the intermediate dirt-bed, the lowest members of the Purbeck series. Here they are six feet thick and are succeeded by the Roach-bed, which is three feet and a-half thick ; this bed is composed of various shells, of which only the casts remain. Its characteristic fossil is *Cerithium portlandicum*, locally called the “screw.” So abundant is it that the smallest chip contains some portions of it. In some parts of the island the Roach consists almost entirely of *Plicatula* and *Lithodomi*. At the “Bill” oysters predominate. The lowest beds are interspersed with chert and flint, either in layers or in nodules. The next succeeding bed of the Portland series is the Whit-bed, the most valuable stone of the island, varying from a close-grained to an oolitic structure, differing in various parts of the island, both in quality and composition. Sometimes it is intercalated with siliceous seams, or bars, as they are locally called. The most common shell is *Perna mytiloides* and *Pecten lamellosus*. When composed of oolitic grains it is of a brownish-buff colour ; it is found in this form in the northern part of the island and considered to be the best building stone. The presence of shells makes it susceptible to the disintegrating action of the atmosphere, by which the lime is dissolved, leaving the shells to stand out in relief. I shall not trace the series further downwards, as the next succeeding bed—the Curf—has no connection with the bones. The island has undergone great changes since the deposition of even the most recent beds, chiefly from the effects both of elevation depression and denudation. There is abundant evidence that the Middle

Purbecks were once spread over the island; blocks of it occur in several places. The loam above Chesilton contains angular fragments of it, and south of the Verne is a drift bed of great antiquity, full of angular local débris of both Purbeck and Portland stone, together with a considerable number of Sarsen stones from the Lower Tertiaries. The anticlinal of the Weymouth valley shows the extent of the denudation to which the district has been subject, and again the raised beach at the "Bill," 40 feet above the sea-level, and the remarkable deposit of sand and gravel at a still lower level further westward, show the elevating forces that have been at work during the Quaternary Period and since. The



remains rested on the top of the Whit-bed at its junction with the Roach bed, through which the fissure passed. A foot and a-half above them there was a layer of stalagmite, an inch and a-half thick. A few feet from the fissure there was a large cavernous space filled with blocks of stone from the superincumbent Roach-bed, which I consider to be the continuation of the fissure, extending probably through the succeeding strata down to the Portland clay. One of my companions descended into this fissure,

but was unable to proceed very far as it was filled with the obstructing materials. The horizontal position of the beds will help us to arrive at the solution of the origin of these fissures, that they were not occasioned by violent dislocations, but by the yielding character of the basement-bed. Unfortunately, I missed the opportunity of examining the fissure until all traces of it had been obliterated ; had it been otherwise I should have probably found that the beds had been lowered on one side of it, while the others remained unmoved. The human remains consist of portions of four persons—a man, a woman, and two young people. I submitted the fragments of three of their skulls to General Pitt-Rivers. Several pieces were missing. The cephalic-index could not be ascertained with any accuracy. The nose of one was prominent. The chins were shallow, but not otherwise badly formed. My friend and fellow member, Mr. Richardson, fitted many of the bones together, and obtained as accurate a measurement as the scanty materials afforded. The height of the man was about 5ft. 2in., that of the woman 4ft. 8in. In addition to the skulls and other portions of the skeletons, his list includes the right and left scapula of one individual, the right clavicles of two others, the left clavicle of another, also a few vertebrae, ribs, carpal-bones, and phalangals. The animal remains were submitted to Mr. Lydekker, whose recently-published "Catalogue of the Fossil Mammalia, Reptilia, and Amphibia in the British Museum" is a sufficient guarantee for the accuracy of his determination. A femur, two tibiae, two metatarsals of a ruminant (possibly a roe-buck), the tusk of a wild boar, parts of the upper and lower-jaw, and rib of a young fox or dog, various parts of the skeleton of a field-vole (*Arvicola arvensis*), part of the vomer with its characteristic teeth of the gilt-head *Chrysophrys* or *Sea-Bream*, also two marine shells—*Corbula gibba* (one valve), and *Patella vulgata*. The land-shells were represented by *Zonites alliaria*, *Z. crystallinus*, *Z. purus*, *Helix ericetorum*, *H. hispida*, *Helix nemoralis*, *H. pulchella*, var. *costata*, *H. rotundata*, *Vertigo edentata* ; also a few fragments of cuttle fish. Mr. Richardson, to whom I am also

indebted for a careful examination of the pottery, thinks that, with the exception of two fragments, the pieces belong to the same vessel, which he calculates to have been 8 inches high, $13\frac{1}{2}$ inches wide, it is much bulged in the middle; the mouth 8 inches in diameter. The pottery is of coarse clay, containing comminuted shells, and only half baked, the surface rough with no ornamentation. The two other fragments are parts of one vessel, they are of finer material, and ornamented with boat-shaped indentations. One only of the seven flint-flakes has any pretence to skilful manipulation; it is three inches long, and one, three-tenth inch broad. The upper face has an elevated ridge, the lower is flat; both of the edges are sharp and cutting. There is one other which seems to be rudely worked, and capable of use; all are from the Portland beds, and evidently associated with the grave. Prehistoric flint-implements, arrow-heads, axes, &c., are considered in some parts of Italy to be a protection against lightning, epidemics, and cattle disease. The animal-remains favour the supposition that the people with whom they were associated were low in the scale of civilization; all, with the exception of the dog, appear to have been undomesticated. If the jaws belong to a dog, it is what might be expected to be found in the tomb of a family whose subsistence depended upon the wild animals of the chase. The dog is known to have been domesticated at a very early period; it was the companion, friend, and servant of man before the Aryan migrations from the parent-stock had commenced. Domestic animals are found in the Danish kitchen-middens, where their remains are found in great quantities, also among the Swiss lake-dwellings; in these the domestication has been established by Professor Steenstrup, who found that certain bones of birds and quadrupeds which are invariably absent from the refuse-heaps, are precisely those which are eaten by dogs, while on the other hand those which do occur are precisely those which dogs reject habitually. The presence of the roedeer indicates a climate not very different from that of the present day in England. It essentially belongs to the temperate zone, from which extreme heat and cold are absent. The roedeer

is found throughout Central Europe, and the temperate regions of Asia. In the mountainous districts of their range they descend to the plains in winter, resorting to the hills in the summer. It has been found with the Mammoth in the quaternary beds of Saint Acheul, in the department of the Somme in France, by which the index of the climate of the north of France at the termination of the Tertiary Period is ascertained. The roe occurs also in the Forest-bed of Norfolk, which preceded the laying down of the boulder clay; a period of extreme cold, which forced it to migrate southward. At the termination of the Glacial Period it returned, and became abundant in its former haunts. There is abundant evidence that it frequented this county during the Roman occupation. General Pitt-Rivers found its remains in the Romano-British village of Woodcuts, including a shed-horn. At the beginning of the present century the roe was extinct in England excepting perhaps in the extreme north; in Scotland it was then and is now distributed far and wide. Lord Dorchester introduced a few into his woods at Milton Abbey; it is now distributed throughout the county, and wherever preserved it becomes abundant. It is shy and untameable. Remains of the wild boar are found in all the Quaternary deposits of Great Britain. Boars' tusks are manufactured into ornaments and implements for domestic uses. The tusk found with the remains is broken off a little above its insertion into the jaw; it was not shed, and is fairly perfect; it is three inches long, with a strong upward curve; the three edges are extremely sharp and cutting; the upper face, which is four-fifths of an inch across, is slightly concave; the inside border has an elevated ridge; the outer-face, which is nine-tenths of an inch broad, is concave at the base; the inner is also concave, seven-tenths of an inch broad at the base. The *Giltthead* is now common on the coast of the island, and the *limpet* is one of the commonest sea-mollusks. It occurs in great quantities in the Quaternary deposits at Blashenwell, near Corfe Castle. The chips of the cuttle-fish are difficult to account for; their phosphorescence might have given them a superstitious value. All the land-shells are now living on

the island, and were doubtless introduced into the fissure during the process of filling up. The valve of the little marine *Corbula gibba* was probably carried up from the shore by a sea-fowl to whose foot it was attached ; it is improbable that so small and unattractive a shell could have been deposited with the remains intentionally. The last point for our consideration is the character of the deposit. Is it an interment, and, if so, is it in its original state, or has it fallen in from above through some disturbance, causing its support to give way, and hurling its contents into the fissure ? I am inclined to take this view for the following reasons. It has been seen from what has been already said that the fissures of the island pass through the whole series of the Portland-beds down to the Portland clay. The amount of pressure of rock ninety feet in thickness upon a foundation of clay must produce a disturbance affecting the superincumbent beds, causing settlements, cracks, and fissures. Unlike seismic action, which distorts, dislocates, and subverts whatever opposes it, the effect by pressure upon rocks resting upon an unstable base of clay or sand often results in a subsidence, causing dislocation at the weak points, and the initiation of a fissure. Accepting this view I consider that the interment was originally near the surface, over an incipient fissure, or fell in by an accidental local disturbance. Owing to the absence of a large proportion of the human and animal-remains in the fissure, I think it probable that these slipped over the Whitbed ledge and passed on into the cavity below, which was limited in space, being only three feet wide, and insufficient for the interment of four bodies and for the friends who assisted at the obsequies. The layer of stalagmite must have been deposited on the walls of the fissure, and removed from its original position during the process of filling up.





Report on the Returns of Rainfall
AND
Observations on the Flowering of Plants and
Appearances of Birds and Insects
IN DORSET DURING 1891.

By M. G. STUART, Esq.



THE report for 1891 suffers from the loss of returns from some of our most careful observers, and to influenza must be attributed the fragmentary nature of the observations in some instances. The year 1891 will always be memorable in the South of England for the great frost with which it opened, and which had already lasted some five weeks, for the snowstorm of March, the drought of the earlier months, and the excessive rainfall of the autumn.

OBSERVATIONS ON THE APPEARANCE OF BIRDS IN DORSET
DURING 1891.

	Weymouth.	Whatcombe.	Corfe Castle.	Bloxworth.	Blandford.
Cuckoo ..	Apl. 24	Apl. 19	Apl. 21	Apl. 19	Apl. 21
Swallow ..	Apl. 18	Apl. 16	Apl. 12	Apl. 10	Apl. 3
Swift ..	May 13	May 10	Apl. 28	May 20	Apl. 30
Goatsucker ..	May 5	May 5	May 16	May 1	—
Landrail ..	June 10	May 4	May 5	May 6†	—
Nightingale ..	Apl. 23	Apl. 20	—	Apl. 17	—
Wheatear ..	May 15	Apl. 4	Apl. 1*	—	—
Woodcock ..	—	Oct. 30	—	—	Mar. 20 Oct. 27
Wryneck ..	Apl. 27	—	May 6	—	—
Redstart ..	Apl. 23	—	Apl. 22†	—	—
Whitethroat ..	Apl. 14	Apl. 16	Apl. 5	May 6‡	—
Chiffchaff ..	Apl. 16	Apl. 15	Apl. 14	—	—

* Seen at Swanage, March 8th ; at West Lulworth, March 30th.

† Seen at Tynemouth, April 17th. ‡ Song.

The Rev. O. P. Cambridge writes that no thrush was heard till February, nor missel thrush till February 16th. Mr. E. Banks states that a specimen of the rare Pied Flycatcher was seen at Corfe Castle on April 22nd.

The Appearance of	Was noticed at	
	Whatcombe.	Weymouth.
Frog spawn	On Feb. 20th	—
A Viper...	,, March 24th	May 4th

OBSERVATIONS ON THE FLOWERING OF PLANTS, 1891.

	Weymouth.	Corfe Castle.	Dorchester.	Bloxworth.	Whatcombe.
Wood Anemone ..	Ap. 23	Ap. 5	—	—	Ap. 4
Lesser Celandine ..	Ap. 11	Mar. 22	Feb. 19	—	Feb. 7
Marsh Marigold ..	May 9	Ap. 16	Ap. 15	—	Ap. 9
Dog Violet ..	May 4	Mar. 22	—	—	Mar. 4
Greater Stitchwort ..	May 11	May 1	May 9	Ap. 30	May 20
Herb Robert ..	May 12	May 13	May 21	June 2	Ap. 25
Horse Chestnut ..	May 26	May 12	May 12	—	May 20
Bush Vetch ..	May 28	May 7	—	—	May 26
Blackthorn ..	Ap. 17	Ap. 18	May 1	Ap. 25	Ap. 25
Hawthorn ..	May 21	May 24	May 24	May 16	May 4
Ivy ..	Oct. 1	Oct. 3	—	—	Oct. 7
Dogwood ..	June 14	June 22	—	—	June 7
Elder ..	June 14	June 14	—	—	—
Wild Teazel ..	June 25	Aug. 13	July 28	—	July 30
Devil's Bit ..	—	Aug. 21	—	—	Aug. 20
Knapweed ..	June 28	June 22	July 3	—	July 17
Field Thistle ..	June 14	July 2	—	—	July 21
Coltsfoot ..	Feb. 24	—	—	—	Feb. 28
Yarrow ..	July 4	June 27	—	—	June 5
Ox-eye Daisy ..	May 25	May 30	—	June 1	May 26
Mouse-ear Hawkweed ..	—	—	—	—	May 23
Harebell ..	—	July 12	—	—	June 30
Greater Bindweed ..	June 15	—	July 26	—	July 20
Water Mint ..	Aug. 20	Aug. 4	—	—	Aug. 20
Ground Ivy ..	Ap. 18	Ap. 3	Ap. 2	—	Ap. 2
Wych Elm ..	Mar. 5	Mar. 27	—	—	Mar. 13
Hazel ..	Feb. 10	Feb. 1	—	—	Jan. 31
Cowslip ..	Ap. 27	Ap. 6	—	Ap. 15	Ap. 13
Spotted Orchis ..	May 13	—	—	June 7	June 9
Bluebell.. ..	May 9	May 7	May 3	May 6	Ap. 25

OBSERVATIONS ON THE APPEARANCE OF INSECTS, 1891.

		Weymouth.	Corfe Castle.	Whatcombe.	Bloxworth.
Cockchafer	.. .. .. ..	May 20	May 30	June 3	May 18
Fernchafer	.. .. .. ..	—	—	July 17	—
Bloody-nosed Beetle	.. .. .. ..	—	—	May 22	June 5
Glowworm	.. .. .. ..	June 18	June 4	June 17	—
Hive bee ..	.. .. .. ..	Feb. 27	—	Mar. 20	Mar. 7
Wasp ..	.. .. .. ..	May 5	Apl. 29	May 12	Apl. 27
Large Garden White Butterfly	.. .. .. ..	May 2	May 3	Mar. 1	May 11
Small Garden White Butterfly	.. .. .. ..	Apl. 16	Apl. 14	Mar. 20	Apl. 30
Orange Tip Butterfly ..	.. .. .. ..	May 30	May 30	Apl. 10	May 3
Meadow Brown Butterfly	.. .. .. ..	June 18	June 28	Apl. 8	—
Wall Butterfly ..	.. .. .. ..	May 20	May 24	—	May 24
Brimstone ..	.. .. .. ..	—	Aug. 24*	Apl. 15	—
Painted Lady ..	.. .. .. ..	—	—†	—	—
Cinnabar Moth ..	.. .. .. ..	June 18	—	—	—
Currant Moth ..	.. .. .. ..	July 15	Aug. 4	—	—

* Hybernated April 17th. † Hybernated May 31st.

Mr. E. Bankes says "an immense number of hybernated wasps was seen everywhere, and especially along a piece of quick-set hedge close to Corfe Castle Rectory, where on any sunny day in May they could be counted almost by hundreds, and filled the air with the loud humming noise they made—that the Painted Lady, *Vanessa Cardui*, was extremely scarce ; that the Currant Moth, *Abraixas grossulariata*, was unusually abundant ;" which latter observation Mr. Richardson corroborates, but the Rev. O. P. Cambridge reports that it was by no means abundant in his district.

RAINFALL RETURNS FOR DORSET DURING 1891.

From these returns we may further learn that the day on which the greatest amount of rain fell was the 20th August, or, in other words, during the 24 hours commencing on the morning of the 20th August. (Some of the returns give August 21st as the rainiest day, but I feel sure that this difference of date depends on the way in which the rain gauge measurements are recorded by different observers.)

On that day

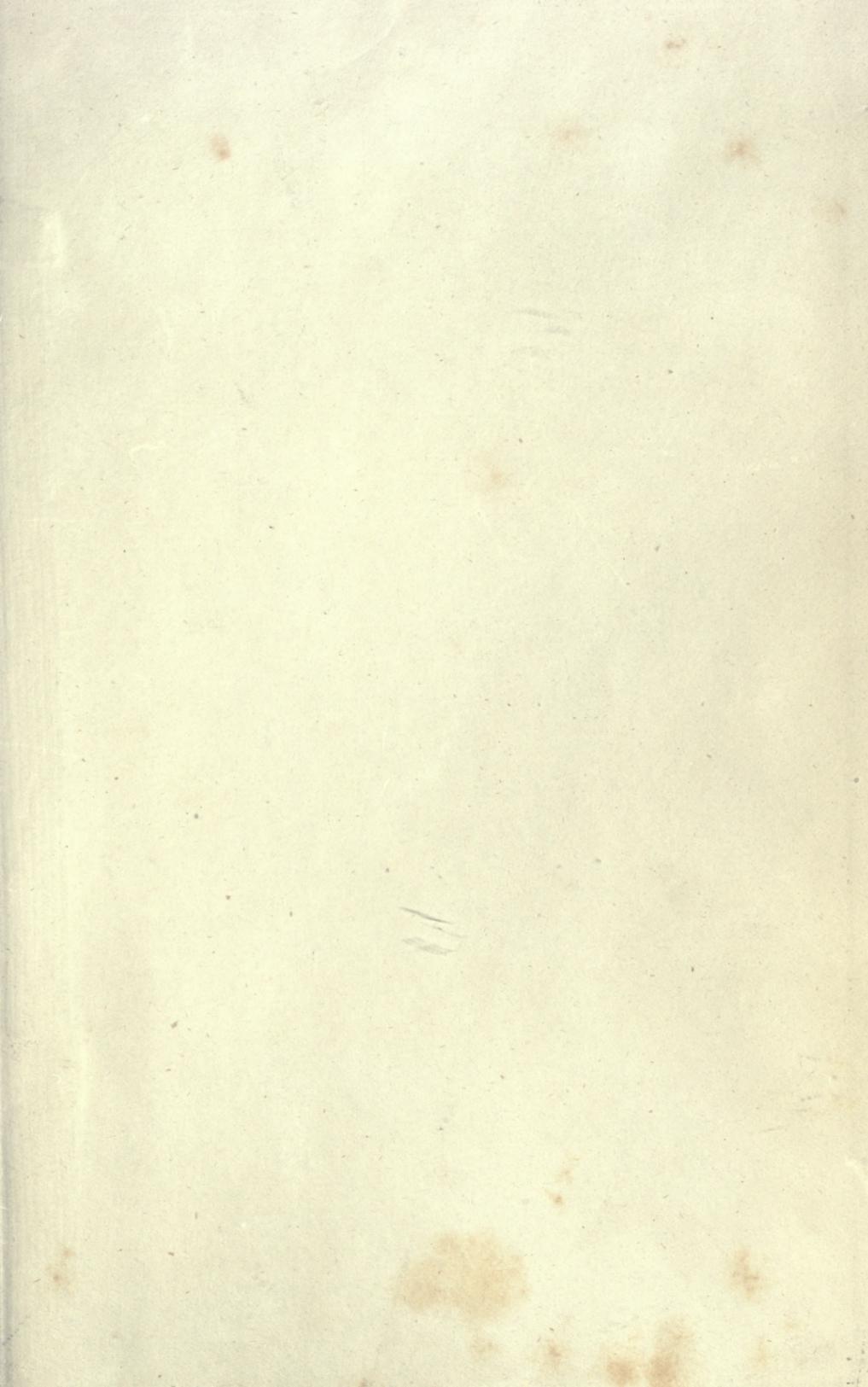
1.79	inch was registered at Swanage.	
1.78	„ „ Langton Herring.	
2.16	„ „ Portisham.	
1.96	„ „ Whatcombe.	
1.63	„ „ Wyke Regis.	
1.67	„ „ Smedmore.	
1.78	„ „ Leeson.	
1.85	„ „ Rushmore.	

Heavy rain also fell on October 6th, when 1.35 inch was registered at Whatcombe, and on November 10th, when 1.63 was registered at Rushmore. General Pitt-Rivers states that "it should be noticed that over 1 inch of rain fell on three days in October, both at Rushmore and Larmer."

A comparison of the number of days on which rain fell in the months of February, August, and October at the following six localities is interesting:—

Rain was registered	In February.	In August.	In October.
At Rushmore	... on 2 days	on 23 days	on 24 days
At Shaftesbury	... on 1 „	on 21 „	on 22 „
At Bloxworth	... on 1 „	on 22 „	on 20 „
At Langton Herring	on 0 „	on 21 „	on 22 „
At Chalbury	... on 0 „	on 22 „	on 23 „
At Wyke Regis	... on 1 „	on 19 „	on 25 „





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